Name _____

Prerequisite Skills Inventory for Grade 3 Page 1

Write the correct answer.

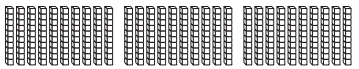
1. Amy has sixty-three stamps in her collection. Write sixty-three another way.

6 tens 3 ones

2. Harry counts by tens. Write the number that Harry will say next.

150, 160, 170, 180, 190

3. Mr. Jenkins uses blocks to model a number. Write how many hundreds his model shows.



3 hundreds

4. There are 257 sports books in the school library. Write the value of the digit 5 in the number 257.

Possible answers: 50 or 5 tens

5. Aiesha wrote this number pattern. What two numbers are next in the pattern?

168, 268, 368, 468, 568, 668

6. Sam sees 5 red balloons, 8 blue balloons, and 2 yellow balloons. Write the sum to name how many balloons he sees in all.

$$\begin{array}{r} 5 \\ 8 \\ +\ 2 \\ \hline \end{array}$$

15 balloons

7. Jeremiah uses related facts to solve a subtraction problem. Write the sum and difference.

$8 + 3 =$ 11

$11 - 8 =$ 3

GO ON

Name _____

Prerequisite Skills Inventory for Grade 3 Page 2

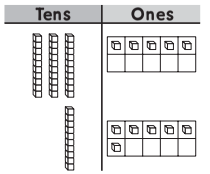
8. Amara puts 4 blocks in each tower. How many blocks are in 3 towers?

12 blocks

9. There are 34 girls and 29 boys in the school play. How many girls and boys are in the school play?

63 girls and boys

10. Juan adds 35 + 16.



Draw to show the regrouping. Write how many tens and ones are in the sum 35 + 16.

5 tens 1 ones

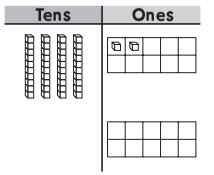
11. What is the sum?

	Tens	Ones
	1	
	5	7
+	2	6
	8	3

12. Mr. Stapp baked 24 blueberry muffins and 36 banana-nut muffins. Write a number sentence that tells how many muffins he baked.

24 + 36 = 60

13. Finn subtracts 16 from 42.



Draw to show the regrouping. Write how many tens and ones are in the difference 42 − 16.

2 tens 6 ones

GO ON

Name _____

Prerequisite Skills Inventory for Grade 3 Page 3

14. What is the difference?

	Tens	Ones
	5	12
	~~6~~	~~2~~
−	3	5
	2	7

15. There were some grapes in a bowl. Jess ate 14 grapes. Now there are 29 grapes in the bowl. How many grapes were in the bowl to start?

Write a number sentence for the problem. Use a ■ for the unknown number. Then solve.

Possible answer: ■ − 14 = 29;

43 grapes

16. Ty scored 12 points in the basketball game. Kevin scored 4 more points than Ty. How many points did Ty and Kevin score in all?

28 points

17. There are 725 people sitting in the airport waiting area. There are another 119 people standing in the airport waiting area. How many people in all are in the airport waiting area?

844 people

18. On Saturday 452 people attend a boat show. 379 people attend the show on Sunday. How many people attend the show on both days?

831 people

19. Crosby had 213 trading cards in his collection. He gave 117 cards to his younger brother. How many trading cards does Crosby have left?

96 trading cards

20. A theater has 405 seats. The theater has sold 356 tickets for seats to a play on Friday. How many empty seats will there be at the play?

49 seats

GO ON

Name _____

Prerequisite Skills Inventory for Grade 3 Page 4

21. Dominic gets on the bus at the time shown on the clock. What time does Dominic get on the bus?

7:30

22. Debbie arrives home from school at the time shown on the clock. What time does Debbie arrive home from school?

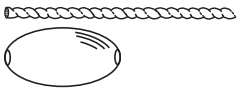
3:40

23. Anna Lucia went to bed at the time shown on the clock.

What time did Anna Lucia go to bed? Circle the correct time.

9:15 A.M. (9:15 P.M.)

24. Peter has some beads that are each 1 inch long. He wants to put them on this string.



Circle the best estimate for the length of the string.

(2 inches) 4 inches 6 inches

25. Use an inch ruler. What is the length of the pin to the nearest inch?

2 inches

26. Aubree started getting ready for school at the time shown on the clock.

What time did Aubree start getting ready for school? Circle the correct time.

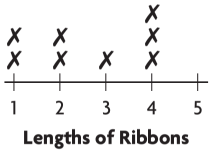
(7:10 A.M.) 7:10 P.M.

GO ON

Name _____

Prerequisite Skills Inventory for Grade 3 Page 5

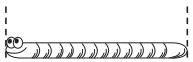
27. Hannah measured ribbon pieces to the nearest inch. She recorded some of the data in the line plot.



Two more pieces each measured 5 inches. How can she show this in the line plot?

Possible answer: draw two Xs above the 5.

28. Use a centimeter ruler. What is the length of the worm to the nearest centimeter?



4 centimeters

29. Ella made the tally chart shown.

Favorite Fruit

Fruit	Tally
Bananas	𝍸 II
Apples	III
Oranges	𝍸
Peaches	I

Which fruit did the most classmates choose?

bananas

30. The picture graph shows the favorite playground activities of some students in Andy's class.

Favorite Playground Activity

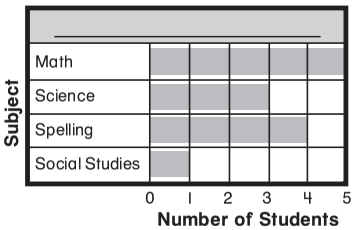
Swings	☺	☺	☺	
Slide	☺	☺	☺	☺
Teeter totter	☺	☺	☺	
Monkey bars	☺	☺		

Key: Each ☺ stands for 1 student.

How many students in all chose the swings or the slide?

7 students

Use the bar graph for Questions 31 and 32.



31. Write a title for the bar graph.

Possible answer: Favorite Subject

32. How many students chose spelling?

4 students

GO ON

Name _____

Prerequisite Skills Inventory for Grade 3 Page 6

33. Max draws a quadrilateral. Draw Max's shape.

Check students' drawings.
Possible answer:

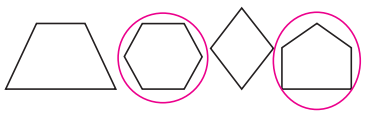
34. How many sides and vertices does the triangle have?

3 sides 3 vertices

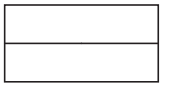
35. Belinda drew a shape. How many vertices does her shape have?

5 vertices

36. Circle the shapes that have more than 4 sides.



37. How many equal parts are in the whole? Write *halves*, *thirds*, or *fourths* to name the equal parts.



2 parts

halves

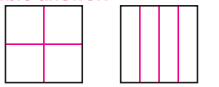
38. How many equal parts are in the whole? Write *halves*, *thirds*, or *fourths* to name the equal parts.

3 parts

thirds

39. Draw to show halves. Color half of the shape.
Possible answer:

40. Mrs. Parker has two pizzas that are the same size. Draw to show two different ways she can divide the pizza into fourths.
Possible answer:



Name _____ **Beginning of Year Test Page 1**

Choose the correct answer.

1. Maria looked at her watch when she left her house to walk to school.

What time is shown on Maria's watch?

- ● eight minutes before eight
- Ⓑ eight minutes before seven
- Ⓒ eight minutes after eight
- Ⓓ eight minutes after seven

2. Zane started painting a picture at 6:07 P.M. and finished painting at 6:42 P.M. For how long did Zane paint his picture?

- Ⓐ 25 minutes
- Ⓒ 45 minutes
- ● 35 minutes
- Ⓓ 49 minutes

3. Mrs. Baker fills a bucket with 25 liters of water. She then fills another bucket with 19 liters of water. What is the total liquid volume of water in both buckets?

- Ⓐ 6 liters
- ● 44 liters
- Ⓑ 36 liters
- Ⓓ 46 liters

4. Roy uses an inch ruler to measure a nail.

What is the length of the nail to the nearest fourth inch?

- Ⓐ $\frac{1}{4}$ inch
- Ⓑ $\frac{1}{2}$ inch
- ● $\frac{3}{4}$ inch
- Ⓓ 1 inch

5. The City Zoo has 114 amphibians and 243 insects in displays for people to observe. How many amphibians and insects are in displays at the City Zoo?

- Ⓐ 129
- Ⓑ 257
- ● 357
- Ⓓ 375

GO ON

Name _____ **Beginning of Year Test Page 2**

6. A third grade class collected leaves on a nature walk. The table shows how many of each type of leaf the class collected.

Leaf Collection

Type of Leaf	Number of Leaves
Maple	216
Oak	174
Elm	109

Which is the **best** estimate of how many more maple leaves than elm leaves were collected?

- ● 100
- Ⓒ 300
- Ⓑ 200
- Ⓓ 400

7. Carly writes a number sentence that shows the Commutative Property of Addition. Which could be Carly's number sentence?

- Ⓐ $(13 + 13) + 4 = 13 + (13 + 4)$
- Ⓑ $15 + 0 = 15$
- ● $28 + 42 = 42 + 28$
- Ⓓ $36 = 30 + 6$

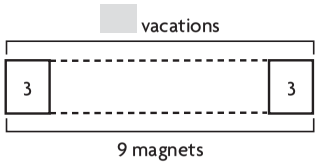
8. The beach shop orders 325 beach balls for the season. The first month the shop sells 168 beach balls. How many beach balls does the beach shop have left to sell?

- Ⓐ 143
- Ⓒ 167
- ● 157
- Ⓓ 257

9. Bo pays $4 for some muffins at the bakery. Each muffin costs $1. How many muffins does Bo buy?

- Ⓐ 0
- ● 4
- Ⓑ 1
- Ⓓ 14

10. Amir has 9 magnets from his vacations. He has 3 magnets from each of his vacations. How many vacations has Amir gone on?

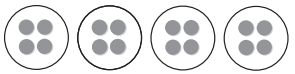


- ● 3
- Ⓒ 6
- Ⓑ 4
- Ⓓ 12

GO ON

Name _____ **Beginning of Year Test Page 3**

11. Greg has 16 framed pictures of sports stars. He places an equal number of pictures on each of 4 shelves in his room.



How many pictures of sports stars are on each shelf?

Ⓐ 2 Ⓒ 6
● 4 Ⓓ 8

12. Benito writes a set of related facts. One of the facts he writes is $24 \div 6 = 4$. Which equation is included in the same set of related facts?

● $6 \times 4 = 24$ Ⓒ $24 \div 3 = 8$
Ⓑ $3 \times 8 = 24$ Ⓓ $12 \div 6 = 2$

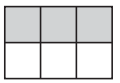
13. Shara uses $\frac{1}{3}$ cup of oil and $\frac{2}{3}$ cup of water in a recipe. Which statement correctly compares the fractions?

Ⓐ $\frac{1}{3} > \frac{2}{3}$ ● $\frac{2}{3} > \frac{1}{3}$
Ⓑ $\frac{1}{3} = \frac{2}{3}$ Ⓓ $\frac{2}{3} < \frac{1}{3}$

14. In a survey, $\frac{1}{3}$ of shoppers chose Friday as their favorite day to shop and $\frac{1}{8}$ of shoppers chose Sunday. Which statement correctly compares the fractions?

Ⓐ $\frac{1}{3} = \frac{1}{8}$
Ⓑ $\frac{1}{3} < \frac{1}{8}$
Ⓒ $\frac{1}{8} > \frac{1}{3}$
● $\frac{1}{8} < \frac{1}{3}$

15. Nathan makes a design with small squares. He wants $\frac{3}{6}$ of the squares to be red.



Which fraction is equivalent to $\frac{3}{6}$?

Ⓐ $\frac{3}{4}$
● $\frac{1}{2}$
Ⓒ $\frac{1}{3}$
Ⓓ $\frac{1}{4}$

GO ON

Name _____ **Beginning of Year Test Page 4**

16. Mr. Preston measures the lengths of three ribbons. The first ribbon is $\frac{3}{4}$ foot long. The second ribbon is $\frac{3}{8}$ foot long. The third ribbon is $\frac{3}{3}$ foot long. Which list orders the fractions from **greatest** to **least**?

● $\frac{3}{3}, \frac{3}{4}, \frac{3}{8}$ Ⓒ $\frac{3}{3}, \frac{3}{8}, \frac{3}{4}$
Ⓑ $\frac{3}{8}, \frac{3}{4}, \frac{3}{3}$ Ⓓ $\frac{3}{4}, \frac{3}{8}, \frac{3}{3}$

17. Samantha was doing her math homework. She wrote:

$9 + 9 + 9 + 9$

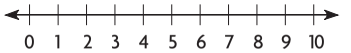
Which is another way to show what Samantha wrote?

Ⓐ 4×4 Ⓒ $9 + 4$
Ⓑ 9×3 ● 4×9

18. Mrs. O'Hara looked in 3 nests for eggs. In each nest she found 0 eggs. Which sentence represents the total number of eggs Mrs. O'Hara found?

Ⓐ $3 \times 1 = 3$
Ⓑ $3 + 0 = 3$
● $3 \times 0 = 0$
Ⓓ $3 - 3 = 0$

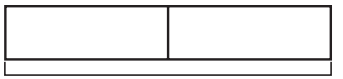
19. Topher buys 2 packages of juice boxes. There are 3 juice boxes in each package.



How many juice boxes does Topher buy in all?

Ⓐ 2
Ⓑ 5
● 6
Ⓓ 8

20. At dance class, the teacher divided the class into 2 groups. Each group had 7 students.



How many students are in the dance class in all?

Ⓐ 9
Ⓑ 10
Ⓒ 12
● 14

GO ON

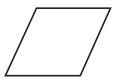
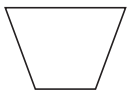
Name _____ **Beginning of Year Test Page 5**

21. Rachel drew an array to show the number of stamps on a page in her scrapbook.

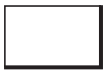
Which multiplication sentence shows the total number of stamps on a page of Rachel's scrapbook?

- (A) $5 \times 3 = 15$
- (B) $3 \times 3 = 9$
- (C) $4 \times 4 = 16$
- ● $4 \times 3 = 12$

22. Isaac draws a quadrilateral with exactly one pair of sides that appear to be parallel. Which shape does Isaac draw?

- (A) 
- ● 
- (C) 
- (D) 

23. Fiona draws a quadrilateral.



Which word can be used to describe the bold sides of her quadrilateral?

- (A) parallel
- ● perpendicular
- (C) point
- (D) triangle

24. Which capital letter appears to have a right angle?

- ● E
- (B) Z
- (C) M
- (D) A

25. Finley drew a polygon with 6 sides. What is the name of the polygon she drew?

- (A) octagon
- (B) pentagon
- ● hexagon
- (D) triangle

GO ON

Name _____ **Beginning of Year Test Page 6**

26. Tam plans to put 42 tiles on her bedroom wall. She will arrange the tiles in rows with 7 in each row. How many rows of tiles will Tam have?

- ● 6
- (B) 7
- (C) 8
- (D) 9

27. Each after-school soccer team has 20 players. There are 6 teams in the after-school program. How many players are there in all on the teams?

- (A) 26
- ● 120
- (C) 122
- (D) 1,200

28. Jenna's goal is to learn 8 new words every day. At the end of day 30, how many new words will Jenna have learned?

- (A) 38
- (B) 160
- ● 240
- (D) 2,400

29. A toy shop makes this table to know how many tricycle tires to keep in stock.

Tricycles	2	3	4	5	6
Tires	6	9	12	15	18

Which of the following describes a pattern shown in the table?

- (A) Multiply the number of tricycles by 6.
- (B) Add 6 tires for each tricycle.
- (C) Add 12 tires for each tricycle.
- ● Multiply the number of tricycles by 3.

30. Sami divided 56 mints into 7 small cups as party favors. Each cup has the same number of mints. How many mints did Sami put in each cup?

$56 \div 7 = a$

$7 \times a = 56$

- (A) 6
- (B) 7
- ● 8
- (D) 9

GO ON

Name _____ **Beginning of Year Test Page 7**

31. Jared has 50 swimming medals. He puts 10 medals on each hook in his room. How many hooks does Jared need for all of his medals?

- ● 5
- (C) 15
- (B) 10
- (D) 60

32. Salim has 5 boxes of paint jars. Each box has the same number of paint jars. His teacher gives him 6 more paint jars. Now he has 41 paint jars. How many paint jars were in each box?

- (A) 6
- (C) 35
- ● 7
- (D) 52

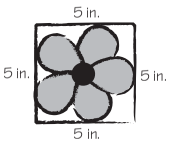
33. Diana uses the order of operations to find the unknown number.

$$2 + 6 \times 5 = c$$

What is the unknown number?

- (A) $c = 24$
- (B) $c = 28$
- ● $c = 32$
- (D) $c = 40$

34. Tia wants to put a piece of blue yarn around a picture she drew.



How many inches of blue yarn does Tia need for the perimeter of the picture?

- (A) 10 inches
- (B) 15 inches
- ● 20 inches
- (D) 25 inches

35. The drawing shows the coat closet in Ben's classroom. Each unit square is 1 square foot.

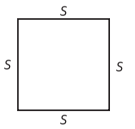
Which equation can Ben use to find the area of the coat closet?

- ● $3 \times 6 = 18$
- (B) $3 + 6 = 9$
- (C) $3 \times 3 = 9$
- (D) $6 \times 6 = 36$

GO ON

Name _____ **Beginning of Year Test Page 8**

36. Doug uses a ruler to draw a square. The perimeter of the square is 20 centimeters.



What is the length of one side of the square?

- (A) 4 centimeters
- ● 5 centimeters
- (C) 16 centimeters
- (D) 80 centimeters

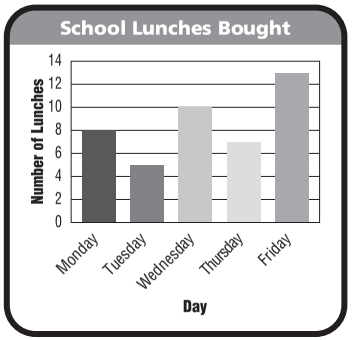
37. There are two sandboxes in the kindergarten play area. The first sandbox is 5 feet long and 4 feet wide. The second sandbox is the same length as the first sandbox. The area of the second sandbox is twice the area of the first sandbox. What is the width of the second sandbox?

- (A) 2 feet
- (B) 3 feet
- (C) 6 feet
- ● 8 feet

38. Harry is making a bar graph to show the favorite sports of his classmates. Which will have the shortest bar in his graph?

- ● 3 votes for baseball
- (B) 4 votes for soccer
- (C) 5 votes for riding bikes
- (D) 9 votes for swimming

39. Amy's teacher made a bar graph to show the number of school lunches bought over a five-day period by her class.



How many more lunches were bought on Friday than on Tuesday and Thursday combined?

- ● 1
- (C) 5
- (B) 2
- (D) 8

GO ON

Name _____ **Beginning of Year Test Page 9**

40. All 32 students in Gisele's class chose their favorite instrument. Gisele shows the number of students that chose each instrument in a tally table.

Favorite Musical Instrument	
Instrument	**Tally**
Flute	𝍸 ||||
Trumpet	𝍸 ||
Drums	𝍸 𝍸
Violin	𝍸 |

How many students chose either the drums or the violin?

Ⓐ 7 Ⓒ 15
Ⓑ 14 ● 16

41. A third-grade class made a picture graph to show the number of students who play baseball after school. This is the key to their picture graph.

Key: Each 🧍 = 2 students.

How many students does 🧍🧍🧍🧍🧍 stand for?

Ⓐ 4 ● 9
Ⓑ 8 Ⓓ 10

42. There are 9 game pieces on each tic-tac-toe board. The third grade class has 4 tic-tac-toe boards. How many game pieces does the class have for all of their tic-tac-toe boards?

Ⓐ 13 ● 36
Ⓑ 27 Ⓓ 45

43. Amy uses 8 tickets for a prize at the school fair booth. Each ticket is worth 5 points. How many points does Amy use for her prize?

● 40 Ⓒ 20
Ⓑ 35 Ⓓ 13

44. Karl's brother has a box for storing his toy cars. The box has 2 layers. Each layer has 3 rows. Each row has 6 spaces for toy cars. How many toy cars can Karl's brother store in the box?

● 36 Ⓒ 12
Ⓑ 18 Ⓓ 6

GO ON

Name _____ **Beginning of Year Test Page 10**

45. Crosby writes a number sentence that is an example of the Distributive Property. Which shows Crosby's number sentence?

Ⓐ $6 \times 7 = 40 + 2$
● $6 \times 7 = (6 \times 4) + (6 \times 3)$
Ⓒ $6 \times 7 = 6 \times (4 \times 3)$
Ⓓ $6 \times 7 = 7 \times 6$

46. Ellie wants to make $1.10 using dollars, half dollars, and dimes. How many different ways can she make $1.10?

Ⓐ 2 ● 4
Ⓑ 3 Ⓓ 5

47. Two friends share 3 snack bars equally.

How much does each friend get?

Ⓐ 1 whole and 1 eighth
Ⓑ 1 whole and 1 fourth
Ⓒ 1 whole and 1 third
● 1 whole and 1 half

48. Brian divides this shape into equal parts.

What is the name for the parts?

Ⓐ thirds
● eighths
Ⓒ fourths
Ⓓ halves

49. Breanna uses 10 blocks to make a tower. One half of the blocks are green. How many of the blocks are green?

Ⓐ 2 Ⓒ 4
Ⓑ 3 ● 5

50. Aaron has 4 new comic books. He brings 2 of the comic books with him to school. What fraction of his new comic books does Aaron bring to school?

Ⓐ $\frac{2}{6}$ Ⓒ $\frac{4}{4}$
● $\frac{2}{4}$ Ⓓ $\frac{4}{2}$

STOP

Name _____ **Chapter 1 Test Page 1**

1. For numbers 1a–1d, choose Yes or No to tell whether the sum is even.

1a.	8 + 3	○ Yes	● No
1b.	6 + 6	● Yes	○ No
1c.	4 + 5	○ Yes	● No
1d.	2 + 6	● Yes	○ No

2. Select the number sentences that show the Commutative Property of Addition. Mark all that apply.

- Ⓐ 9 + 7 = 16 + 0
- ● 9 + 7 = 7 + 9
- ● (4 + 5) + 7 = (5 + 4) + 7
- Ⓓ 7 + (4 + 5) = (7 + 4) + 5

3. Select the numbers that round to 500 when rounded to the nearest hundred. Mark all that apply.

- Ⓐ 438
- ● 542
- ● 450
- ● 483
- Ⓔ 567

4. There are 165 cars in the parking lot. Complete the chart to show 165 rounded to the nearest 10.

Hundreds	Tens	Ones
1	7	0

GO ON

Name _____ **Chapter 1 Test Page 2**

5. Write each number sentence in the box below the better estimate of the sum.

281 + 125 = ■ 242 + 128 = ■

236 + 119 = ■ 309 + 135 = ■

300	400
236 + 119 = ■	281 + 125 = ■
242 + 128 = ■	309 + 135 = ■

6. Abby and Cruz are playing a game. Abby's score is 586 points. Cruz's score is 754. Abby estimates she needs about 200 points more to reach Cruz's score. How did she estimate? Explain.

Possible answer: she rounded to the nearest hundred. Possible explanation: she rounded 586 to 600 and 754 to 800. Then she subtracted: 800 − 600 = 200.

7. The table shows how many shells each person collected.

Shells Collected

Name	Number of Shells
Amber	382
Melba	455
Pablo	421

For numbers 7a–7d select True or False for each statement.

7a.	Melba collected about 40 more shells than Pablo.	● True	○ False
7b.	Melba and Pablo collected more than 800 shells.	● True	○ False
7c.	Amber collected about 60 fewer shells than Pablo.	○ True	● False
7d.	Amber, Melba, and Pablo collected over 1,100 shells.	● True	○ False

GO ON

Name _____ Chapter 1 Test Page 3

8. Mikio drove 58 miles on Saturday. On Sunday he drove 23 miles. How many miles did he drive on Saturday and Sunday? Explain how you solved the problem.

81 miles; possible explanation: start with 58 and count on 2 to 60. Then add 23 as 2 tens 3 ones. Remember to subtract the 2 you counted on to start, 3 − 2 =1, so 81.

9. Choose the property that makes the statement true.

The (Identity / **Commutative** / Associative) Property of Addition describes the number sentence 17 + 1 = 1 + 17.

Use the table for 10–12.

10. The table shows the number of students visiting the zoo each day.

How many students visited the zoo on Wednesday and Thursday?

857 students

Field Trips This Week

Day	Number of Students
Monday	246
Tuesday	418
Wednesday	349
Thursday	508

11. How many more students visited the zoo on Wednesday than on Monday?

103 students

12. How many more students visited the zoo on Monday and Tuesday than on Wednesday?

315 students

GO ON

Name _____ Chapter 1 Test Page 4

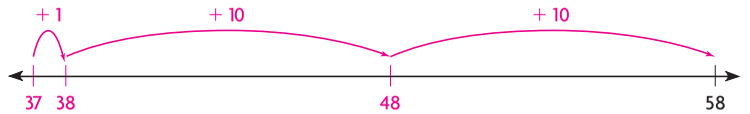
13. Help Ben find the sum.

246
321
+ 128

For numbers 13a–13d choose Yes or No to tell Ben when to regroup.

13a.	Regroup the ones.	● Yes	○ No
13b.	Add the regrouped ten.	● Yes	○ No
13c.	Regroup the tens.	○ Yes	● No
13d.	Add the regrouped hundred.	○ Yes	● No

14. Avery sent 58 email invitations to a party. So far, 37 people replied. How many people still need to reply? Draw jumps and label the number line to show your thinking. **Possible drawing and labels shown.**



21 people

15. There are 842 seats in the school auditorium. 138 seats need repairs. How many seats do not need repairs? Show your work.

704 seats

16. Madison solves this problem. She says the difference is 419. Explain the mistake Madison made. What is the correct difference?

645
− 236

Possible explanation: When Madison combined the tens and ones, she should have regrouped 1 ten as 10 ones to subtract 36 from 45. Then she would have 0 tens and 9 ones left. The difference is 409.

GO ON

Name _____

Chapter 1 Test
Page 5

17. Radburn School recycles aluminum cans to raise money. The third graders have collected 329 cans so far. Their goal is to collect more than 500 cans. What is the least number of cans they need to collect to reach their goal? Complete the bar model and explain how to use it to find the unknown part.

172 cans; Possible explanation: the bar model shows a whole of 500 and a part of 329. The unknown amount represents the number of cans still to be collected. Solve using subtraction: 500 − 329 = 171. So, they need to collect 1 more can than 171, which is 172.

18. The Science Center displays 236 butterflies. The number of beetles on display is 89 less than the number of butterflies.

Part A

About how many beetles are on display at the Science Center? Explain.

Possible answer: about 150 beetles; possible explanation: you can round 236 to 240. You can round 89 to 90. Then subtract: 240 − 90 = 150.

Part B

How many butterflies and beetles are on display at the Science Center? Show your work.

383 butterflies and beetles; beetles: 236 − 89 = 147; total: 236 + 147 = 383

GO ON

Name _____

Chapter 1 Test
Page 6

19. Elena used 74 + 37 = 111 to check her subtraction. Which math problem could she be checking? Mark all that apply.

- Ⓐ 74 − 37 = ■
- ● 111 − 74 = ■
- Ⓒ 111 + 37 = ■
- ● 111 − 37 = ■

20. Shawn and Steve are rock hunters. The tables show the kinds of rocks they collected.

Shawn's Collection

Rock	Number of Samples
Quartz	127
Agate	65
Opal	96

Steve's Collection

Rock	Number of Samples
Opal	79
Quartz	109
Onyx	93

Part A

Who collected more rock samples? How many did he collect? About how many more did he collect? Explain how you solved the problem.

Shawn; 288 rocks; Possible explanation: round to the nearest ten to estimate the number of rocks Shawn has (about 300) and Steve has (about 290). Then subtract: 300 − 290 = 10. Shawn has about 10 more.

Part B

Shawn and Steve have the greatest number of what kind of rock? How many rocks of that kind do they have? Show your work.

quartz rocks; 236 rocks; 127 + 109 = 236

STOP

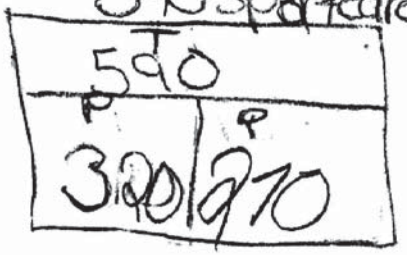
Name _____

Alberto's Collections

Alberto collects sports cards, stamps, and coins. He puts his collections into albums. Alberto uses math strategies to add and subtract items in his collections.

1. Alberto has 318 baseball cards and 273 basketball cards. Estimate how many sports cards Alberto has. Describe the strategy you used to estimate.

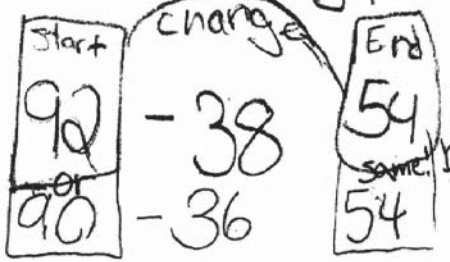
590 sportcard I rounded to the nearest 10 and added



320
+270
590

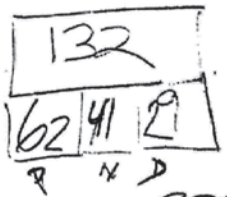
2. Alberto has 92 stamps in one large album and 38 stamps in another small album. How can he use mental math to find how many more stamps are in the large album? Use drawings to show your answer.

Number model: 92 − 38 = 54



54 stamps because 90−36 is easier to do in my head.

3. Alberto has 62 pennies, 41 nickels, and 29 dimes. What strategy can Alberto use to find the total number of coins? Describe it and show your work.



72 12 10
62 + 41 + 29
60
60+70 = 130+2 = 132

I grouped numbers together

4. Suppose Alberto collects another 343 coins. How many coins will he have in his collection now? Describe two strategies you can use. Then choose one strategy and solve.

I can use expanded form by breaking apart the numbers or I can use estimation form.

132 → 100 + 30 + 2
+343 → 300 + 40 + 3
400 + 70 + 5 = 475

5. Of Alberto's total number of coins, 168 are quarters. Describe two strategies you can use to find how many coins are not quarters. Estimate the difference. Then choose one strategy and solve.

I think it will be around 300.

I can round and then subtract or subtract 200 then round. 500 300
I can add 2 to both numbers so it is easier and then subtract.

Name _____ **Chapter 1**

Alberto's Collections

Alberto collects sports cards, stamps, and coins. He puts his collections into albums. Alberto uses math strategies to add and subtract items in his collections.

1. Alberto has 318 baseball cards and 273 basketball cards. Estimate how many sports cards Alberto has. Describe the strategy you used to estimate.

320
+220
540

I went to the nerest ten because if you go to the nerest ten you only have to add a few numbers.

2. Alberto has 92 stamps in one large album and 38 stamps in another small album. How can he use mental math to find how many more stamps are in the large album? Use drawings to show your answer.

Counted by 10's and Ones and used a number line

50
+2
+2
54

3. Alberto has 62 pennies, 41 nickels, and 29 dimes. What strategy can Alberto use to find the total number of coins? Describe it and show your work.

62
41
+ 29 > 70

62
70
132

↑ grouping numbers together

4. Suppose Alberto collects another 343 coins. How many coins will he have in his collection now? Describe two strategies you can use. Then choose one strategy and solve.

I Can estimate or expand

132 = 130
343 = +340
470

5. Of Alberto's total number of coins, 168 are quarters. Describe two strategies you can use to find how many coins are not quarters. Estimate the difference. Then choose one strategy and solve.

470
-170
300

I can estimate the numbers then I can subtract them

Sample Level 2 Response

Name _____ **Chapter 1**

Alberto's Collections

Alberto collects sports cards, stamps, and coins. He puts his collections into albums. Alberto uses math strategies to add and subtract items in his collections.

1. Alberto has 318 baseball cards and 273 basketball cards. Estimate how many sports cards Alberto has. Describe the strategy you used to estimate.

about 600 | 591
318 | 273

I added 318 and 273, my estimate is 600

2. Alberto has 92 stamps in one large album and 38 stamps in another small album. How can he use mental math to find how many more stamps are in the large album? Use drawings to show your answer.

92 − 38 = 54

3. Alberto has 62 pennies, 41 nickels, and 29 dimes. What strategy can Alberto use to find the total number of coins? Describe it and show your work.

62 | 41 | 29 = 132

I added 62, 41 and 29 and ended up with 132.

62
41
29
132

4. Suppose Alberto collects another 343 coins. How many coins will he have in his collection now? Describe two strategies you can use. Then choose one strategy and solve.

132
+343

100 + 30 + 20
300 + 40 + 30
400 + 70 + 50
470

5. Of Alberto's total number of coins, 168 are quarters. Describe two strategies you can use to find how many coins are not quarters. Estimate the difference. Then choose one strategy and solve.

4750
- 168

4750
- 200
4550

Name _____

Chapter 1

Alberto's Collections

Alberto collects sports cards, stamps, and coins. He puts his collections into albums. Alberto uses math strategies to add and subtract items in his collections.

1. Alberto has 318 baseball cards and 273 basketball cards. Estimate how many sports cards Alberto has. Describe the strategy you used to estimate.

2. Alberto has 92 stamps in one large album and 38 stamps in another small album. How can he use mental math to find how many more stamps are in the large album? Use drawings to show your answer.

3. Alberto has 62 pennies, 41 nickels, and 29 dimes. What strategy can Alberto use to find the total number of coins? Describe it and show your work.

4. Suppose Alberto collects another 343 coins. How many coins will he have in his collection now? Describe two strategies you can use. Then choose one strategy and solve.

5. Of Alberto's total number of coins, 168 are quarters. Describe two strategies you can use to find how many coins are not quarters. Estimate the difference. Then choose one strategy and solve.

Name _____

Chapter 2 Test
Page 1

1. John made a tally table to record the animals he saw on a trip to Alaska.

Animals Seen in Alaska	
Name	Tally
Fox	𝍸
Caribou	𝍸 𝍸 |||
Bear	𝍸 |||
Moose	||

For numbers 1a–1c, select True or False for each statement.

1a. John saw twice as many bears as foxes.

○ True ● False

1b. John saw 5 more caribou than bears.

● True ○ False

1c. John saw 4 fewer moose than foxes.

○ True ● False

2. Kayla asked 26 students in her class how they traveled to school. The frequency table shows the results.

Getting to School		
	Boys	Girls
Walk	5	3
Bus	4	6
Car	3	5

Part A

Complete the table and explain how you found the answer.

Possible explanation: add the numbers in the table for both boys and girls, then subtract the total from 26: 26 − 20 = 6.

Part B

How many more students are there who travel by car or bus to school than students who walk to school? Show your work.

10 more students; 4 + 6 + 3 + 5 = 18; 5 + 3 = 8; 18 − 8 = 10

GO ON

Name _____

Chapter 2 Test
Page 2

Use the picture graph for 3–6.

Three friends are collecting canned food for the food bank. The picture graph shows the number of cans collected so far.

Number of Cans Collected	
Soo	35
Jen	20
Sam	30

Key: Each = 5 cans.

3. How many cans were collected? Explain how you found the total.

85 cans; Possible explanation: count the can symbols by fives for all three friends.

4. Choose the name from each box that makes the sentence true.

Ten fewer cans were collected by [Soo / **Jen** / Sam]

than [Soo / Jen / **Sam**] .

5. How many more cans did Soo collect than Jen?

15 more cans

6. Jen collects 20 more cans. Draw a picture to show how the graph will change.

Check students' drawings. Students should draw 4 more pictures. They may note that now Jen has collected the most cans.

GO ON

Name _____

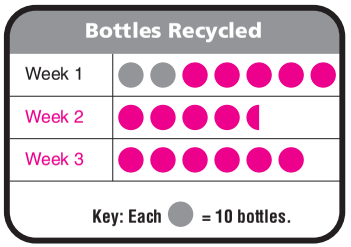
Use the frequency table for 7–8.

7. Ms. Green's class is recycling bottles to help the environment. The frequency table shows the number of bottles the class recycled each week.

Bottles Recycled	
Week	Number of Bottles
Week 1	70
Week 2	45
Week 3	60

Part A

Use the data in the table to complete the picture graph.



Part B

How many pictures did you draw for Week 2? Explain.

$4\frac{1}{2}$; Possible explanation: Because each circle represents 10 bottles, I drew 4 circles to represent 40 bottles and 1 half circle to represent 5 bottles.

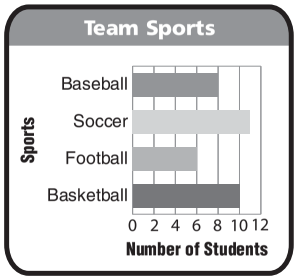
8. The class has a goal of recycling 250 bottles during the month. How many more bottles do they need to recycle in Week 4 to meet that goal?

Ⓐ 100 bottles
Ⓑ 175 bottles
● 75 bottles
Ⓓ 55 bottles

GO ON

Name _____

Use the bar graph for 9–12.



9. Two more students play basketball than which other sport?

baseball

10. How many students play either baseball or soccer?

19 students

11. For numbers 11a–11d, select True or False for each statement.

11a.	Ten more students play basketball than play football.	○ True	● False
11b.	Eleven students play soccer.	● True	○ False
11c.	34 students play a sport.	○ True	● False
11d.	Five fewer students play football than play soccer.	● True	○ False

12. There are more students who play volleyball than play football, but fewer students play volleyball than play basketball. Explain how you could change the bar graph to show the number of students who play volleyball.

Possible explanation: the bar for volleyball will be somewhere between 6 and 10. I could add the data at the top of the graph, above the bar for baseball.

GO ON

Name _____

Chapter 2 Test
Page 5

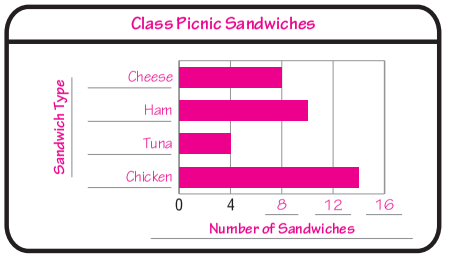
Use the frequency table for 13–14.

13. For the class picnic people have a choice of four kinds of sandwiches. The frequency table shows the number of sandwiches chosen.

Class Picnic Sandwiches	
Sandwich	Number of Sandwiches
Cheese	8
Ham	10
Tuna	4
Chicken	14

Part A

Use the data in the table to complete the bar graph.



Part B

How do you know how long to make the bars on your graph? How did you show 14 chicken sandwiches? Explain.

Possible explanation: I drew the bars to end at the number of votes shown in the table. 14 is half way between 12 and 16, so the bar stops in the middle of the space between 12 and 16.

14. How many more are there of the two sandwiches that were chosen the most than of the two sandwiches that were chosen the least? Explain how you solved the problem.

12 sandwiches; Possible explanation: People chose 10 + 14 = 24 of the two most popular sandwiches. People chose 8 + 4 = 12 of the least popular sandwiches. The difference is 24 − 12 = 12 sandwiches.

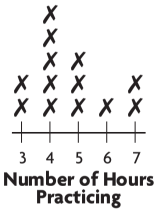
GO ON

Name _____

Chapter 2 Test
Page 6

Use the line plot for 15–16.

Yuji made a line plot to show the number of hours each student in his music class practiced every week.



15. For numbers 15a–15d, select True or False for each statement.

15a. Three students practiced exactly 5 hours each week. ● True ○ False

15b. Seven students practiced 4 hours or less each week. ● True ○ False

15c. Six students practiced exactly 1 hour each week. ○ True ● False

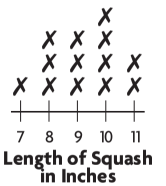
15d. Two students practiced more than 6 hours each week. ● True ○ False

16. What if two more students joined the class and each practiced 9 hours a week? Describe what the line plot would look like.

Possible explanation: the line plot would be extended to 9. There would be two Xs above the 9. The 8 in the line plot would have no Xs.

Use the line plot for 17–18.

Paige grew squash in her garden. She measured the length of each squash to the nearest inch and recorded the data in the line plot.



17. How many squash were 10 inches or longer?

6 squash

18. How many more squash were 9 inches long than 7 inches long?

2 squash

STOP

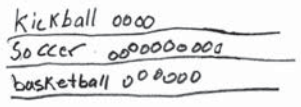
Name _____

Our Favorite Things

Miss Diaz's third grade class is taking surveys to find out about the students' favorite things. They record the data in tables.

1. Enrico collects data about sports. Use the data to make a picture graph. Include a key. Draw your graph in the space below.

Favorite Sports	
Sport	Number
Kickball	8
Soccer	19
Basketball	12



2. Six more students say they like kickball. Now how many more students like soccer than kickball? Write number sentences to solve the problem.

8 + 6 = 14

19
-14
5

5 more kids like soccer.

3. Tenley collects data about pets. Use the data to make a bar graph. Include a scale. Draw your graph in the space below.

Favorite Pets	
Pet	Number
Cat	𝍸 𝍸 |
Dog	𝍸 𝍸 ||||
Hamster	||||
Bird	𝍸 ||

4. Tenley collects more data. Now 3 more students like hamsters. How many fewer students like hamsters than dogs? Write number sentences to solve the problem.

3 + 4 = 7 14 - 7 = 7

7 fewer students like hamsters

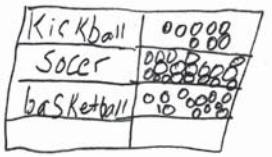
Name _____ **Chapter 2**

Our Favorite Things

Miss Diaz's third grade class is taking surveys to find out about the students' favorite things. They record the data in tables.

1. Enrico collects data about sports. Use the data to make a picture graph. Include a key. Draw your graph in the space below.

Favorite Sports	
Sport	Number
Kickball	8
Soccer	19
Basketball	12



o = 1

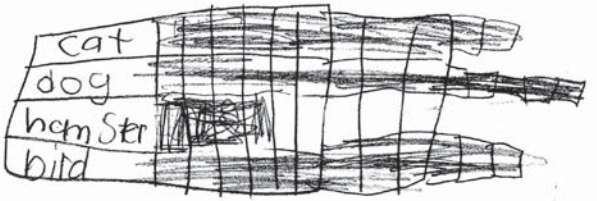
2. Six more students say they like kickball. Now how many more students like soccer than kickball? Write number sentences to solve the problem.

8+6=14 19-14=5

19
-14
5

3. Tenley collects data about pets. Use the data to make a bar graph. Include a scale. Draw your graph in the space below.

Favorite Pets	
Pet	Number
Cat	𝍸 𝍸 |
Dog	𝍸 𝍸 ||||
Hamster	||||
Bird	𝍸 ||



4. *Tenley collects more data. Now 3 more students like hamsters.* How many fewer students like hamsters than dogs? Write number sentences to solve the problem.

3+4=7 14-7=7

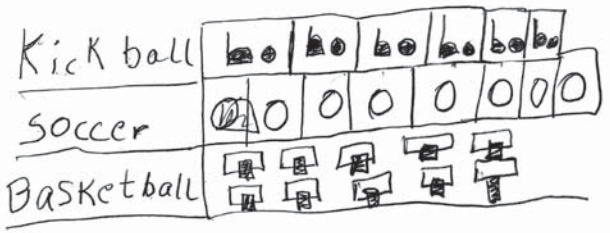
Name _____ **Chapter 2**

Our Favorite Things

Miss Diaz's third grade class is taking surveys to find out about the students' favorite things. They record the data in tables.

1. Enrico collects data about sports. Use the data to make a picture graph. Include a key. Draw your graph in the space below.

Favorite Sports	
Sport	Number
Kickball	8
Soccer	19
Basketball	12

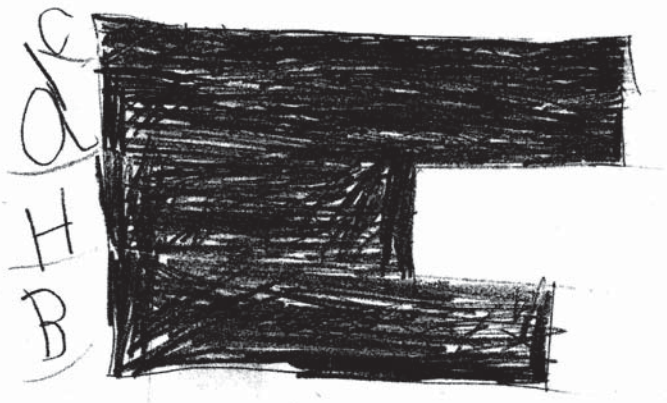


2. Six more students say they like kickball. Now how many more students like soccer than kickball? Write number sentences to solve the problem.

8+6=13

3. Tenley collects data about pets. Use the data to make a bar graph. Include a scale. Draw your graph in the space below.

Favorite Pets	
Pet	Number
Cat	𝍸 𝍸 |
Dog	𝍸 𝍸 ||||
Hamster	||||
Bird	𝍸 ||



4. *Tenley collects more data. Now 3 more students like hamsters.* How many fewer students like hamsters than dogs? Write number sentences to solve the problem.

3+3=6

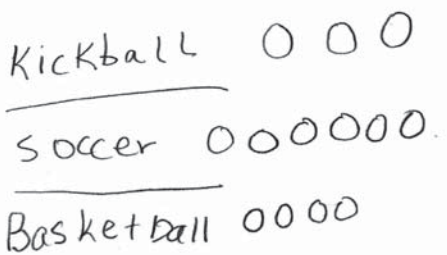
Name _____ **Chapter 2**

Our Favorite Things

Miss Diaz's third grade class is taking surveys to find out about the students' favorite things. They record the data in tables.

1. Enrico collects data about sports. Use the data to make a picture graph. Include a key. Draw your graph in the space below.

Favorite Sports	
Sport	Number
Kickball	8
Soccer	19
Basketball	12

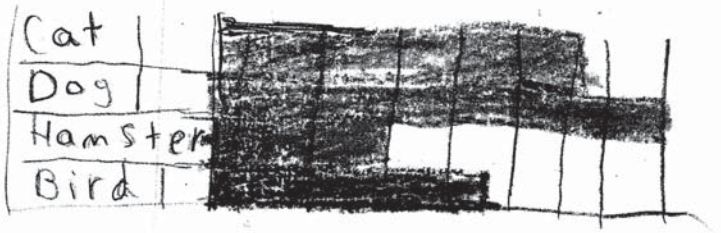


2. Six more students say they like kickball. Now how many more students like soccer than kickball? Write number sentences to solve the problem.

6

3. Tenley collects data about pets. Use the data to make a bar graph. Include a scale. Draw your graph in the space below.

Favorite Pets	
Pet	Number
Cat	𝍸 𝍸 |
Dog	𝍸 𝍸 ||||
Hamster	||||
Bird	𝍸 ||



4. *Tenley collects more data. Now 3 more students like hamsters.* How many fewer students like hamsters than dogs? Write number sentences to solve the problem.

3

Sample Level 0 Response

Name _____ **Chapter 3 Test Page 1**

1. There are 4 flower beds in Max's yard. Three rosebushes grow in each flower bed. How many rosebushes are there? Draw circles to model the problem and explain how to solve it.

Possible explanation: students might count the number of circles, or add 3 + 3 + 3 + 3, or multiply 4 × 3.

12 rosebushes

2. Greta put 6 coins into each of 3 stacks. She wrote this number sentence to represent the total number of coins.

$3 \times 6 = 18$

What is a related number sentence that also represents the total number of coins she has?

- ● $6 \times 3 = \blacksquare$
- Ⓑ $6 + 3 = \blacksquare$
- Ⓒ $3 + 3 + 3 = \blacksquare$
- Ⓓ $6 \times 6 = \blacksquare$

3. Cecile went fishing for three days at a lake. The first jump on the number line shows how many fish she caught the first day. She caught the same number of fish the next two days.

Write the multiplication sentence that the number line shows.

3 × 3 = 9

GO ON

Name _____ **Chapter 3 Test Page 2**

4. Ben drew an array to show the number of video games he has.

Write a multiplication sentence for the array.

$2 \times 8 = 16$ or $8 \times 2 = 16$

5. Julissa makes 4 bracelets. She uses 9 charms on each bracelet.

For numbers 5a–5d, tell if the number sentence could be used to find the number of charms Julissa uses.

5a.	$4 + 9 = \blacksquare$	○ Yes	● No
5b.	$3 + 3 + 3 + 3 = \blacksquare$	○ Yes	● No
5c.	$9 + 9 + 9 + 9 = \blacksquare$	● Yes	○ No
5d.	$4 \times 9 = \blacksquare$	● Yes	○ No

6. Edith sorts buttons into 4 groups for her art project. Each group contains 6 buttons. How many buttons does Edith sort? Make a bar model to solve the problem.

24 buttons

7. Select the number sentences that show the Commutative Property of Multiplication. Mark all that apply.

- Ⓐ $5 \times 2 = 5 + 5$
- Ⓑ $6 \times 0 = 6$
- ● $7 \times 5 = 5 \times 7$
- ● $8 \times 1 = 1 \times 8$
- Ⓔ $9 \times 1 = 9$

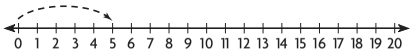
GO ON

Name _____

8. There are 5 tables in the library. Four students are sitting at each table. How many students are sitting in the library?

20 students

9. Keisha needs 3 equal lengths of rope for a Field Day activity. The jump on the number line shows the length of one rope in yards. How many yards of rope does Keisha need?



15 yards

10. Anna's mom makes 3 sandwiches every school day. Each sandwich gets 3 slices of cheese. How many slices of cheese will Anna's mom need for all the sandwiches she makes on 2 school days?

18 slices of cheese

11. Angelo stacked 30 cans of soup collected during a food drive.

Select other ways Angelo could arrange the same number of cans. Mark all that apply.

- (●) 1 row of 30
- (●) 5 rows of 6
- (C) 6 rows of 6
- (D) 8 rows of 4
- (●) 10 rows of 3

GO ON

Name _____

12. Choose the number that makes the sentence true.

The product of any number and [(0) / 1 / 10] is zero.

13. Ellen made this array to show that $2 \times 9 = 18$.

Part A

Ellen says that $9 \times 2 = 18$. Is Ellen correct? Draw an array to explain your answer.

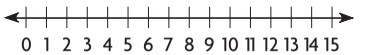
Yes, Ellen is correct.

Part B

Which number property supports your answer? Explain.

Commutative Property of Multiplication; Possible explanation: the arrays show that $2 \times 9 = 18$ and $9 \times 2 = 18$, so Ellen is correct.

14. Abdul has a collection of stamps. He puts the stamps in 2 equal groups. There are 7 stamps in each group. How many stamps does Abdul have? Use the number line to show your work.



Check students' work.

14 stamps

GO ON

Name _____ Chapter 3 Test Page 5

15. Hudson and Asher each collect comic books.

Part A

Hudson sorts his comic books into 3 piles. Each group has 7 comic books. How many comic books does he have?

21 comic books

Part B

Asher sorts his comic books into 4 piles. Each pile has 2 comic books in it. Write a multiplication sentence to show how many comic books Asher has.

Then find how many comic books Hudson and Asher have.

$2 \times 4 = 8$; $21 + 8 = 29$

29 comic books

16. Aiden sees 4 lifeguard towers at the beach. Each tower has 1 lifeguard. Write a multiplication sentence to show the number of lifeguards Aiden sees.

4 × 1 = 4

17. Jorge spends 7 minutes completing each of 4 puzzles. He can use 7×4 to find the total amount of time he spends on the puzzles.

For numbers 17a–17d, choose Yes or No to show which expressions are equal to 7×4.

17a.	$7 + 4$	○ Yes	● No
17b.	$7 + 7 + 7 + 7$	● Yes	○ No
17c.	$4 + 4 + 4 + 4 + 4 + 4 + 4$	● Yes	○ No
17d.	$7 + 7 + 7 + 7 + 7 + 7 + 7$	○ Yes	● No

GO ON

Name _____ Chapter 3 Test Page 6

18. Maya buys 3 bags of dried pears. Each bag contains 6 dried pears.

Select the number sentences that show all the dried pears Maya buys. Mark all that apply.

- Ⓐ $3 + 3 + 3 = 9$
- ● $3 + 3 + 3 + 3 + 3 + 3 = 18$
- Ⓒ $6 + 3 = 9$
- ● $6 + 6 + 6 = 18$
- ● $3 \times 6 = 18$
- Ⓕ $9 + 9 = 18$

19. Javier is making 6 smoothies. He puts 4 strawberries and 1 banana in each smoothie.

Part A

Write the total number of strawberries and bananas he uses. Write a multiplication sentence for each.

24 strawberries

6 × 4 = 24

6 bananas

6 × 1 = 6

Part B

After making 6 smoothies, Javier has 9 strawberries and 4 bananas left. What is the greatest number of smoothies he can make with that fruit if he uses the same recipe for all the smoothies? Draw models and use them to explain.

Check students' drawings. Possible explanation: he can make 4 smoothies with 1 banana each, but only 2 smoothies with 4 strawberries each, so the greatest number of smoothies he can make is 2. There will be 2 bananas and 1 strawberry left.

At most, he can make 2 more smoothies.

STOP

Name _____ **Chapter 3**

Tile Designs

Thao is making tile designs in art class. She arranges the tiles in groups. Solve these problems using equal groups, arrays, and properties of multiplication.

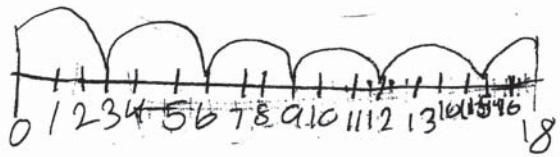
The picture graph shows how many tiles of each color Thao has. Use the graph to answer the questions.

Thao's Tiles	
Color	Number of Tiles
Red	
Blue	
Green	
Yellow	
Key: Each ▩ = 3 tiles.	

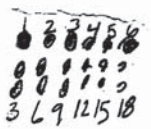
Red 12
blue 18
Green 15
Yellow 9

1. Thao uses blue tiles to make a design. How many tiles does she have? Write a multiplication sentence. Draw a number line to skip count.

6 × 3 = 18

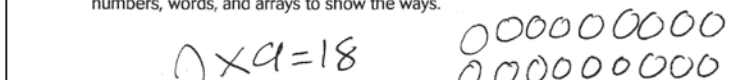


2. Thao wants to arrange the tiles in equal rows. Draw a picture to show the multiplication sentence.

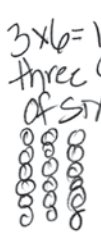


3. How many other ways can Thao arrange the blue tiles? Use numbers, words, and arrays to show the ways.

2 × 9 = 18

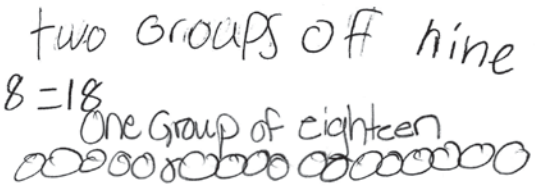


3 × 6 = 18
three groups of six



two groups of nine

1 × 18 = 18
One Group of eighteen



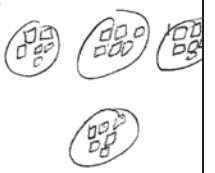
4. Thao uses the green and yellow tiles to make a design. Write two multiplication sentences to show how many tiles she has of each color. Draw how many tiles there are in all. Then draw circles around the tiles to make sets of equal groups.

Yellow

3 × 3 = 9

Green

3 × 5 = 15



15 + 9 = 24

5. Look at the groups you circled. Write two multiplication sentences to show the Commutative Property of Multiplication.

4 × 6 = 24

6 × 4 = 24

Name _____ Chapter 3

Tile Designs

Thao is making tile designs in art class. She arranges the tiles in groups. Solve these problems using equal groups, arrays, and properties of multiplication.

The picture graph shows how many tiles of each color Thao has. Use the graph to answer the questions.

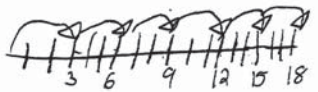
Thao's Tiles

Color	Number of Tiles
Red	▩ ▩ ▩ ▩
Blue	▩ ▩ ▩ ▩ ▩ ▩
Green	▩ ▩ ▩ ▩ ▩
Yellow	▩ ▩ ▩

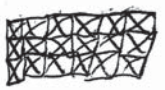
Key: Each ▩ = 3 tiles.

1. Thao uses blue tiles to make a design. How many tiles does she have? Write a multiplication sentence. Draw a number line to skip count.

6 X 3 = 18



2. Thao wants to arrange the tiles in equal rows. Draw a picture to show the multiplication sentence.



3. How many other ways can Thao arrange the blue tiles? Use numbers, words, and arrays to show the ways.

3 groups of 6

2 x 9 = 18

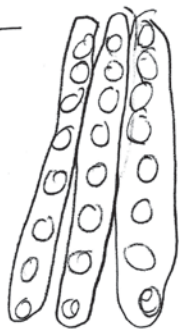
2 x 9 = 18

1 x 18 = 18

4. Thao uses the green and yellow tiles to make a design. Write two multiplication sentences to show how many tiles she has of each color. Draw how many tiles there are in all. Then draw circles around the tiles to make sets of equal groups.

3 X 5 = 15

3 X 3 = 9



5. Look at the groups you circled. Write two multiplication sentences to show the Commutative Property of Multiplication.

3 X 8 = 24

8 X 3 = 24

Name _____ Chapter 3

Tile Designs

Thao is making tile designs in art class. She arranges the tiles in groups. Solve these problems using equal groups, arrays, and properties of multiplication.

The picture graph shows how many tiles of each color Thao has. Use the graph to answer the questions.

3 x 6 = 18

Thao's Tiles

Color	Number of Tiles
Red	
Blue	
Green	
Yellow	

Key: Each = 3 tiles.

1. Thao uses blue tiles to make a design. How many tiles does she have? Write a multiplication sentence. Draw a number line to skip count.

2. Thao wants to arrange the tiles in equal rows. Draw a picture to show the multiplication sentence.

3+3+3+3+3+3=18

3. How many other ways can Thao arrange the blue tiles? Use numbers, words, and arrays to show the ways.

6 x 3 = 18 2 groups of 9

4. Thao uses the green and yellow tiles to make a design. Write two multiplication sentences to show how many tiles she has of each color. Draw how many tiles there are in all. Then draw circles around the tiles to make sets of equal groups.

5 x 3 = 15 green

5. Look at the groups you circled. Write two multiplication sentences to show the Commutative Property of Multiplication.

3 x 3 = 9 yellow

Name _____

Chapter 3

Tile Designs

Thao is making tile designs in art class. She arranges the tiles in groups. Solve these problems using equal groups, arrays, and properties of multiplication.

The picture graph shows how many tiles of each color Thao has. Use the graph to answer the questions.

Thao's Tiles

Color	Number of Tiles
Red	
Blue	
Green	
Yellow	

Key: Each = 3 tiles.

1. Thao uses blue tiles to make a design. How many tiles does she have? Write a multiplication sentence. Draw a number line to skip count.

6 x 3 = 18

2. Thao wants to arrange the tiles in equal rows. Draw a picture to show the multiplication sentence.

3. How many other ways can Thao arrange the blue tiles? Use numbers, words, and arrays to show the ways.

3 By 18
3 x 6 = 18

4. Thao uses the green and yellow tiles to make a design. Write two multiplication sentences to show how many tiles she has of each color. Draw how many tiles there are in all. Then draw circles around the tiles to make sets of equal groups.

5 x 3 = 15
3 x 3 = 9
24

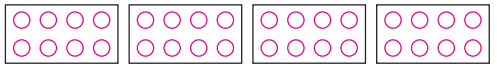
5. Look at the groups you circled. Write two multiplication sentences to show the Commutative Property of Multiplication.

6 x 1 = 26
2 x 6 = 26

Name _____ Chapter 4 Test Page 1

1. Alberto packed 8 apples in each of 4 boxes. How many apples did Alberto pack?

Draw circles to model the problem. Then solve.



32 apples; Possible explanations: students may multiply 4 × 8 or multiply 4 × 4 = 16 and double the product.

2. For numbers 2a–2d, select True or False for each multiplication sentence.

2a.	3 × 8 = 24	● True	○ False
2b.	5 × 8 = 48	○ True	● False
2c.	7 × 8 = 56	● True	○ False
2d.	9 × 8 = 81	○ True	● False

3. Peggy is putting flowers in vases. She puts either 2 or 3 flowers in each vase. If Peggy has a total of 12 flowers, how many different ways can she place them all in the vases?

Write multiplication sentences to show your work.

3 different ways; 2 × 6 = 12; 4 × 3 = 12; (2 × 3) + (3 × 2) = 12

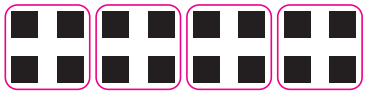
4. Dean plants 7 corn plants in each of 5 rows. How many corn plants does Dean plant?

35 plants

GO ON

Name _____ Chapter 4 Test Page 2

5. Circle groups to show 4 × (2 × 2).



6. Rebecca keeps all of her pairs of gloves in a drawer. Select the number of gloves that Rebecca could have in the drawer. Mark all that apply.

- Ⓐ 5
- ● 4
- ● 6
- Ⓓ 11
- ● 10

7. Hal completed the table to describe the product of a mystery one-digit factor and each number.

×	1	2	3	4	5
?	odd	even	odd	even	odd

Part A

Give all of the possible numbers that could be Hal's mystery one-digit factor.

1, 3, 5, 7, 9

Part B

Explain how you know that you have selected all of the correct possibilities.

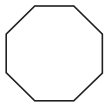
Possible explanation: because the products alternate between even and odd, the mystery factor must be an odd number. I have selected all of the odd one-digit numbers.

GO ON

Name _____

Chapter 4 Test
Page 3

8. Yuri used toothpicks to make 6 separate octagons. An octagon has 8 sides. How many toothpicks did Yuri use?

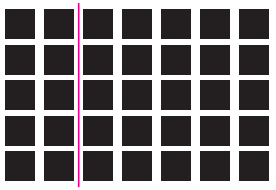


48 toothpicks

9. Maria practiced soccer 5 days last week. She practiced 2 hours each day. How many hours did Maria practice soccer last week?

10 hours

10. Break apart the array to show $5 \times 7 = (5 \times 2) + (5 \times 5)$.



11. Circle the symbol that makes the multiplication sentence true.

9×5 [**>** / < / =] $(9 \times 4) \times 1$

GO ON

Name _____

Chapter 4 Test
Page 4

12. Lori has 18 new stamps to add to her collection. She displays the stamps on pages of an album in groups of either 3, 6, or 9 stamps. How many different ways can she display the 18 new stamps?

7 different ways

13. A shop owner sells 3-wheel baby strollers. She checks the air in the tires on 4 different strollers. How many tires does she check in all?

Use the array to explain how you know your answer is correct.

12 tires; Possible explanation: I circled 3 rows of 4,
$3 \times 4 = 12$. Then I counted by threes to check.

14. Max arranges all of his toy cars in 9 equal rows, with 9 cars in each row. How many toy cars does Max have?

81 toy cars

15. Deanna, Amy, and Pam pick the same number of peaches at an orchard. They each set their peaches in 4 equal piles with 6 peaches in each pile.

Write a multiplication sentence that shows how many peaches they picked.

$3 \times (4 \times 6) = 72$

GO ON

Name _____

16. Kate is baking 5 apple pies for the bake sale. She uses 3 red apples and 2 green apples in each pie. How many apples does Kate use? Show your work.

$5 \times (3 + 2) = 5 \times 5 = 25$

25 apples

17. For numbers 17a–17d, select True or False for each equation.

17a.	$2 \times 7 = 16$	○ True	● False
17b.	$4 \times 7 = 21$	○ True	● False
17c.	$6 \times 7 = 42$	● True	○ False
17d.	$7 \times 7 = 49$	● True	○ False

18. Circle the number that makes the multiplication sentence true.

$10 \times$ (6, **7**, 8) $= 70$

19. For numbers 19a–19d, select Yes or No to indicate whether the sum or product is equal to 9×4.

19a.	$(5 \times 4) + (4 \times 4)$	● Yes	○ No
19b.	$5 + (4 \times 5)$	○ Yes	● No
19c.	$(3 \times 3) + (2 \times 2)$	○ Yes	● No
19d.	$4 \times (5 + 4)$	● Yes	○ No

GO ON

Name _____

20. A rollercoaster car can fit 6 people. How many people can fit in a rollercoaster that is 9 cars long?

54 people

21. Write a multiplication sentence using the following numbers and symbols.

56	4	2	7	( )	=	×

Possible answer: $2 \times (4 \times 7) = 56$

22. Debbie started a table showing a multiplication pattern.

Part A

Complete the table. Describe a pattern you see in the products.

×	1	2	3	4	5	6	7	8	9	10
6	6	12	18	24	30	36	42	48	54	60

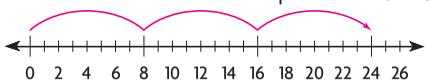
Possible answer: a pattern is add 6.

Part B

If you multiplied 6×73, would the product be an even number or an odd number? Use the table to explain your reasoning.

Possible explanation: when any number is multiplied by 6 (an even number), the product is even, so the product of 6×73 would be even.

23. Use the number line to show the product of 3×8.



$3 \times 8 =$ 24

STOP

Name _____

Chapter 4

Bake Sale

The students in Mr. Jacoby's third grade class are having a bake sale. Use multiplication facts and strategies to solve each problem.

1. Des makes 4 trays of granola bars. Each tray holds 8 bars. How many granola bars does Des make? Choose a strategy to solve. Use numbers, words, and pictures.

4 X 8 = 32
granola bars
units

2. Shateel has 5 plates. He wants to put 6 apple turnovers on each plate. How many apple turnovers does Shateel need to bake? Choose a strategy to solve. Use numbers, words, and pictures.

5 x 6 = 30 apple turnovers
unit

3. Seth makes 6 trays of blueberry muffins for the bake sale. Each tray has 9 muffins. How can Seth use the Distributive Property to show how many muffins he made? Use pictures, words, and numbers.

6 x 9 = 54 blue berry muffins
(6 x 4) + (6 x 5)
24 + 30

4. There are 7 tables at the bake sale. Each table holds 8 trays of baked goods. At the end of the bake sale, there are 2 trays of baked goods left. How many trays of baked goods were sold at the sale? Choose a strategy to solve. Use pictures, words, and numbers.

7 x 8 = 56
56 trays - 14 trays = 42 trays
2 x 7 = 14

Name _____ Chapter 4

Bake Sale

The students in Mr. Jacoby's third grade class are having a bake sale. Use multiplication facts and strategies to solve each problem.

1. Des makes 4 trays of granola bars. Each tray holds 8 bars. How many granola bars does Des make? Choose a strategy to solve. Use numbers, words, and pictures.

4 X 8 = 32 unit granola bars

2. Shateel has 5 plates. He wants to put 6 apple turnovers on each plate. How many apple turnovers does Shateel need to bake? Choose a strategy to solve. Use numbers, words, and pictures.

5 X 6 = 30 unit apple turnovers

3. Seth makes 6 trays of blueberry muffins for the bake sale. Each tray has 9 muffins. How can Seth use the Distributive Property to show how many muffins he made? Use pictures, words, and numbers.

6 X 9 = 54 unit muffins

4. There are 7 tables at the bake sale. Each table holds 8 trays of baked goods. At the end of the bake sale, there are 2 trays of baked goods left. How many trays of baked goods were sold at the sale? Choose a strategy to solve. Use pictures, words, and numbers.

7 X 8 = 56 bakegoods

2 X 8 = 16

56
- 14
42

Name _____ **Chapter 4**

Bake Sale

The students in Mr. Jacoby's third grade class are having a bake sale. Use multiplication facts and strategies to solve each problem.

1. Des makes 4 trays of granola bars. Each tray holds 8 bars. How many granola bars does Des make? Choose a strategy to solve. Use numbers, words, and pictures.

4 x 8 = 32 granola bars

2. Shateel has 5 plates. He wants to put 6 apple turnovers on each plate. How many apple turnovers does Shateel need to bake? Choose a strategy to solve. Use numbers, words, and pictures.

5 x 6 = 30 apple turnovers

3. Seth makes 6 trays of blueberry muffins for the bake sale. Each tray has 9 muffins. How can Seth use the Distributive Property to show how many muffins he made? Use pictures, words, and numbers.

9 x 6 = 54 muffins

4. There are 7 tables at the bake sale. Each table holds 8 trays of baked goods. At the end of the bake sale, there are 2 trays of baked goods left. How many trays of baked goods were sold at the sale? Choose a strategy to solve. Use pictures, words, and numbers.

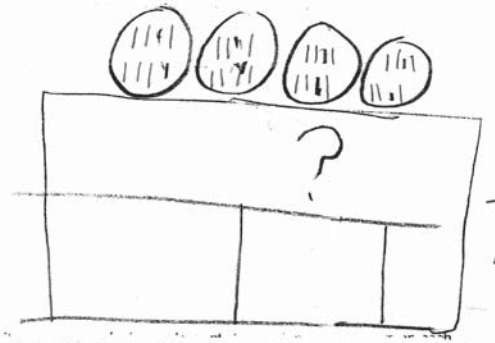
32 + 30 + 54 = 2
= 110 trays sold

Name _____ **Chapter 4**

Bake Sale

The students in Mr. Jacoby's third grade class are having a bake sale. Use multiplication facts and strategies to solve each problem.

1. Des makes 4 trays of granola bars. Each tray holds 8 bars. How many granola bars does Des make? Choose a strategy to solve. Use numbers, words, and pictures.

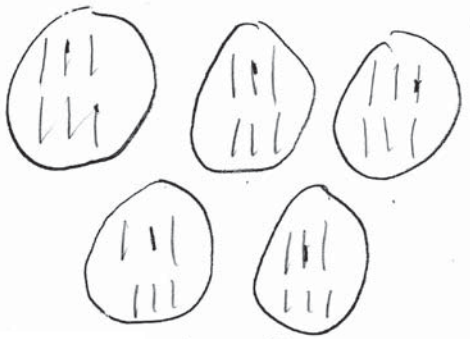


unit
granola bars

Answer
~~2x4=8~~
4x8=32

8x1=8
8x2=16
8x3=21
8x4=24

2. Shateel has 5 plates. He wants to put 6 apple turnovers on each plate. How many apple turnovers does Shateel need to bake? Choose a strategy to solve. Use numbers, words, and pictures.

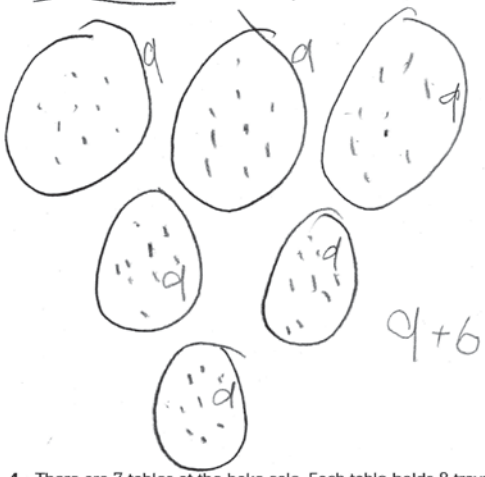


unit
Appels

each plate has 1

1 left over

3. Seth makes 6 trays of blueberry muffins for the bake sale. Each tray has 9 muffins. How can Seth use the Distributive Property to show how many muffins he made? Use pictures, words, and numbers.

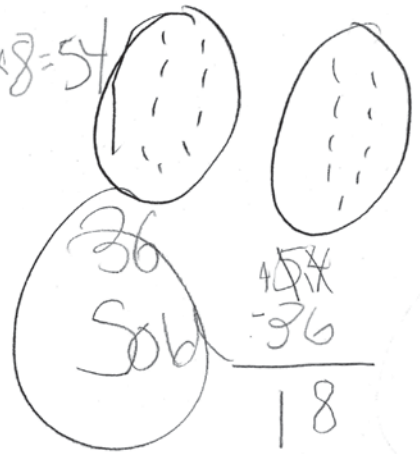


unit
Bake Sale

9+6=15

4. There are 7 tables at the bake sale. Each table holds 8 trays of baked goods. At the end of the bake sale, there are 2 trays of baked goods left. How many trays of baked goods were sold at the sale? Choose a strategy to solve. Use pictures, words, and numbers.

7x8=54



54
-36
18

unit
Bake Sale

18 left over

Name _____

Chapter 5 Test
Page 1

1. The dance company wants to rent trunks to hold their costumes when they travel. Each trunk can hold costumes for 6 dancers. Which equation could be used to find how many trunks are needed for 48 dancers?

- Ⓐ $6 \times 48 = \square$
- Ⓑ $48 \times \square = 6$
- Ⓒ $48 \times 6 = \square$
- ● $\square \times 6 = 48$

2. Select the equations that show the Distributive Property. Mark all that apply.

- ● $3 \times 60 = 3 \times (20 + 20 + 20)$
- Ⓑ $5 \times 20 = (5 \times 2) \times (5 \times 10)$
- Ⓒ $50 \times 7 = 7 \times 50$
- ● $8 \times (10 + 30) = 8 \times 40$

3. Choose the number from the box that makes the sentence true.

Study hall has 63 desks. There are 9 desks in each row.

There are | (7) / 8 / 9 | rows of desks in study hall.

GO ON

Name _____

Chapter 5 Test
Page 2

4. For numbers 4a-4d, choose True or False for each equation.

4a.	$9 \times (3 + 3) = 9 \times 6$	● True	○ False
4b.	$9 \times (4 + 4) = 9 \times 6$	○ True	● False
4c.	$(3 \times 9) + (2 \times 9) = 9 \times 6$	○ True	● False
4d.	$(9 \times 4) + (9 \times 2) = 9 \times 6$	● True	○ False

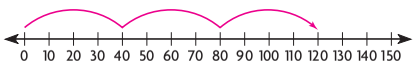
5. Carmen keeps her card collection in a folder with 20 pages. Each page has 8 cards. Willie has 150 cards in his collection. Does Carmen have more, fewer, or the same number of cards as Willie?

- ● She has more cards than Willie.
- Ⓑ She has the same number of cards as Willie.
- Ⓒ She has fewer cards than Willie.

6. For items 6a–6d, choose Yes or No to show whether the unknown factor is 9.

6a.	$6 \times \square = 56$	○ Yes	● No
6b.	$\square \times 4 = 42$	○ Yes	● No
6c.	$8 \times \square = 72$	● Yes	○ No
6d.	$\square \times 50 = 450$	● Yes	○ No

7. Each bus can carry 40 people. Use the number line to find how many people 3 buses can carry.

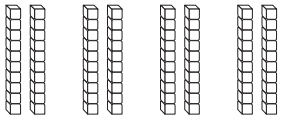


120 people

GO ON

Name _____

8. Neil made this multiplication model. Complete the equation that represents the model.



4; 20; 80 or 20; 4; 80

_____ × _____ = _____

9. A flower shop delivers fresh flower bouquets to hotels each week. Which hotel buys the least number of flowers?

Hotel	Number of Flowers in 1 Bouquet	Number of Bouquets
Welcome Inn Hotel	7	50
Wild Rose Hotel	8	60
Bayside Hotel	6	70
Hotel Ranchero	5	80

The Welcome Inn Hotel

10. A store has 3 crates of oranges. Each crate holds 2 boxes. Each box holds 20 oranges. What is the total number of oranges in the store?

120 oranges

11. The new lion cub at the zoo weighs 41 pounds. He has been gaining 5 pounds every month as he grows. If this pattern continues, how much will the cub weigh 4 months from now?

61 pounds

GO ON

Name _____

12. Shelly describes a pattern. She says the pattern shown in the table is "Add 5." Is Shelly correct? Explain how you know.

Packages	1	2	3	4	5
Markers	6	12	18	24	30

No, Shelly is not correct. Possible explanation: the pattern works for the first pair of numbers 1 + 5 = 6, but it does not work for any of the other pairs. The pattern should be "Multiply the number of packages by 6."

13. This shows a part of a multiplication table. Find the missing numbers. Explain how you found the numbers.

28	32
35	40
42	48

Possible explanation: the only numbers that have a product of 28 are 4 and 7. The only numbers that have a product of 32 are 4 and 8. This tells me that 4 is the number for the top row. That means 5 is the next row down, and 6 is the row after that. The factors of 7 and 8 are the columns, so I can multiply to find the missing numbers.

14. Describe a pattern for this table.

CDs	4	5	6	7	8
Minutes of Music	200	250	300	350	400

Pattern: Possible description: Multiply the number of CDs by 50.

How would the table change if the pattern was "Multiply the number of CDs by 5"? Explain.

Possible explanation: The table would change by taking a zero off each number of minutes in the second row because you would be multiplying by ones, not tens.

GO ON

Name _____ Chapter 5 Test Page 5

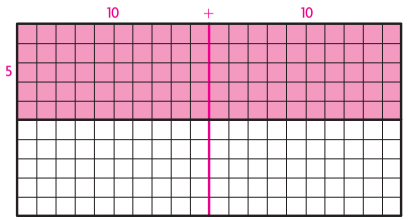
15. Aroon has 180 cat toys to pack in boxes. He packs 30 toys in each box. How many boxes does he need?

Write an equation using the letter *n* to stand for the unknown factor. Explain how to find the unknown factor.

n × 30 = 180; Possible explanation: I can use the basic fact 6 × 3 = 18, so 6 × 30 = 180; *n* = 6. Aroon needs 6 boxes.

16. A store has 5 shelves of soup. There are 20 cans of soup on each shelf. How many cans of soup does the store have?

Shade squares to make a diagram to show how you can use the Distributive Property to find the number of cans of soup in the store.



5 × (10 + 10) = (5 × 10) + (5 × 10) = 50 + 50 = 100

100 cans of soup

GO ON

Name _____ Chapter 5 Test Page 6

17. Beth saves all her dimes. Today she is getting them out of her coin jar and wrapping them to take to the bank. She finds she has 400 dimes. It takes 50 dimes to fill each paper wrapper and make a roll. How many wrappers does she need?

Part A

Write an equation using *n* for the unknown factor. Find the number of wrappers needed.

n × 50 = 400

Part B

Explain how you solved this problem and how you know your answer is correct.

Possible explanation: I used place value. I know that 8 × 5 = 40, so 8 × 5 tens = 40 tens. 40 tens is equal to 400.

18. Two friends have jobs at the mall. Juan works 40 hours each week and earns $9 per hour. Thomas works 50 hours per week and earns $7 per hour.

Part A

Who earns more each week? Juan

Part B

Explain how you found your answer.

Possible explanation: I used place value to find the total amount each friend earns each week. For Juan, 9 × 0 ones = 0 ones and 9 × 4 tens = 36 tens; 36 tens = 360. For Thomas, 7 × 0 ones = 0 ones and 7 × 5 tens = 35 tens; 35 tens = 350. 360 is greater than 350. Juan earns more each week than Thomas.

STOP

Name _____ **Chapter 5**

The School Play

The third grade class is putting on a school play. They are busy preparing for the play. Solve these problems using multiplication facts and strategies.

1. Rashid and Megan make 8 costumes for the play. Each costume needs 5 felt patches. How can Rashid and Megan use a table to find out how many patches they need? Draw a table to solve. Then describe the pattern in the table.

1	2	3	4	5	6	7	8
5	10	5	20	25	30	35	40

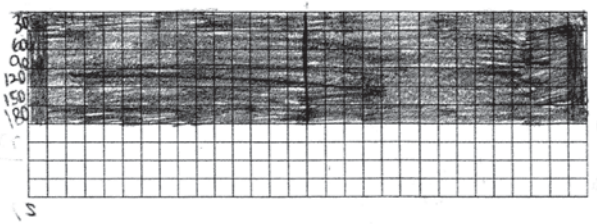
It counts by 5 so it adds 5 each time.

5 x 8 = 40

2. The felt patches come in packages of 10. How many packages will Rashid and Megan need to complete all of the costumes? Use an array, words, and numbers to solve the problem. Then write an equation.

10 x n = 40 They need to get 4 boxes of 10 paches so. n = 4 they get 40 paches.

3. A group of students set up chairs in the cafeteria for the play. They need 6 rows with 30 chairs in each row. How can the students find the number of chairs they need? Draw and label the diagram. Explain how you solved the problem.



10 + 10 + 10 = 30 I break apart and use rectangles.

6 x 10 = 60 6 x 10 = 60 6 x 10 = 60

60 + 60 + 60 = 180 6 x 30 = 180

4. Suppose the students want to put an aisle down the middle of the chairs to make 2 equal sections. How many chairs will be in each section? Write an equation to solve.

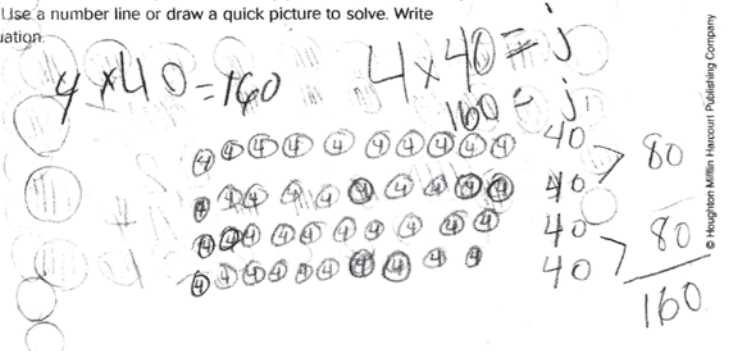
180 ÷ 2 = n n x 2 = 180

90 = n

5. On the day of the play, students get 40 cartons of juice to sell. Each carton has 4 containers of juice. How many juice containers do they have? Use a number line or draw a quick picture to solve. Write an equation.

4 x 40 = 160 4 x 40 = j

160 = j



Name _____ **Chapter 5**

The School Play

The third grade class is putting on a school play. They are busy preparing for the play. Solve these problems using multiplication facts and strategies.

1. Rashid and Megan make 8 costumes for the play. Each costume needs 5 felt patches. How can Rashid and Megan use a table to find out how many patches they need? Draw a table to solve. Then describe the pattern in the table.

1	2	3	4	5	6	7	8
5	10	15	20	25	30	35	40

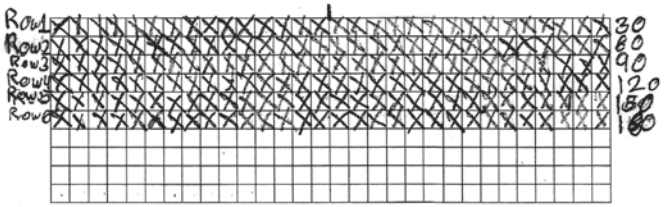
It's counting by 5's.

2. The felt patches come in packages of 10. How many packages will Rashid and Megan need to complete all of the costumes? Use an array, words, and numbers to solve the problem. Then write an equation.

They need 4 packages of 10 patches.

$10 \times 4 = 40$

3. A group of students set up chairs in the cafeteria for the play. They need 6 rows with 30 chairs in each row. How can the students find the number of chairs they need? Draw and label the diagram. Explain how you solved the problem.



4. Suppose the students want to put an aisle down the middle of the chairs to make 2 equal sections. How many chairs will be in each section? Write an equation to solve.

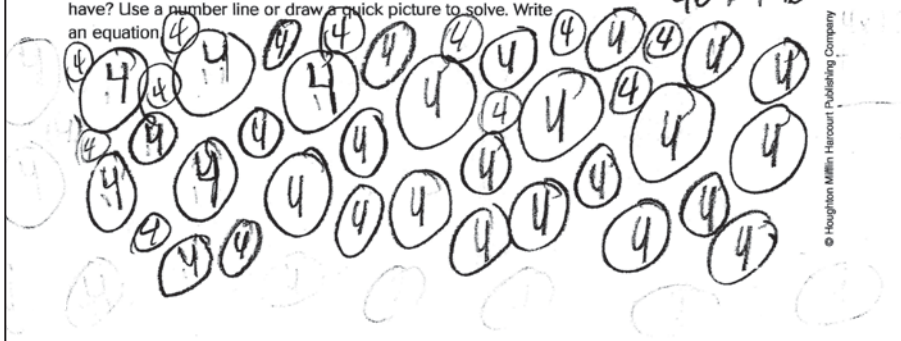
$180 - 90 = 90$ Answer: 90

$2\overline{)180}$ 90

5. On the day of the play, students get 40 cartons of juice to sell. Each carton has 4 containers of juice. How many juice containers do they have? Use a number line or draw a quick picture to solve. Write an equation.

$4 \times 10 = 40$

$40 \times 4 = 160$

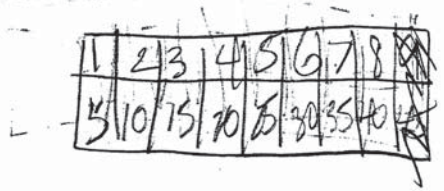


Name _____ **Chapter 5**

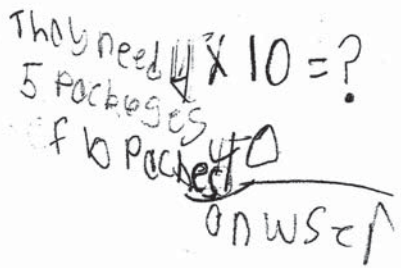
The School Play

The third grade class is putting on a school play. They are busy preparing for the play. Solve these problems using multiplication facts and strategies.

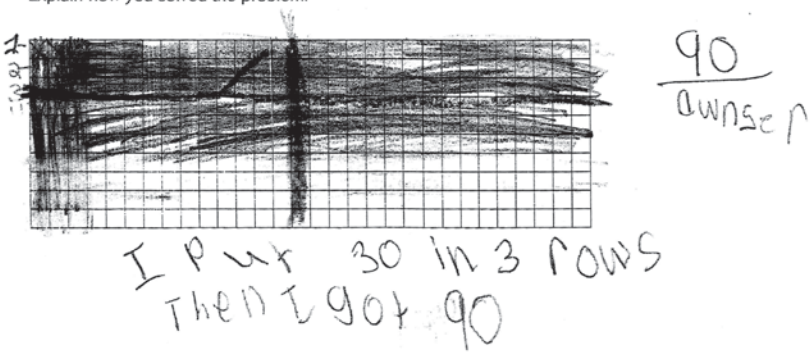
1. Rashid and Megan make 8 costumes for the play. Each costume needs 5 felt patches. How can Rashid and Megan use a table to find out how many patches they need? Draw a table to solve. Then describe the pattern in the table.



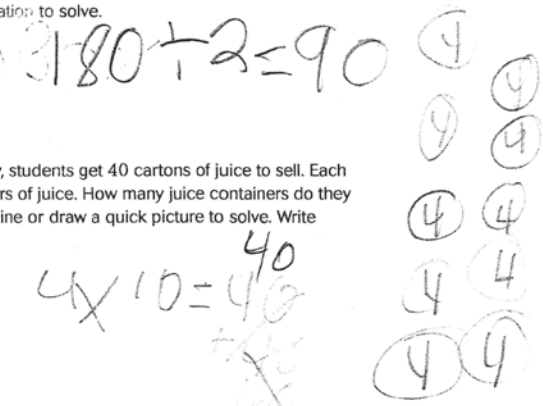
2. The felt patches come in packages of 10. How many packages will Rashid and Megan need to complete all of the costumes? Use an array, words, and numbers to solve the problem. Then write an equation.



3. A group of students set up chairs in the cafeteria for the play. They need 6 rows with 30 chairs in each row. How can the students find the number of chairs they need? Draw and label the diagram. Explain how you solved the problem.



4. Suppose the students want to put an aisle down the middle of the chairs to make 2 equal sections. How many chairs will be in each section? Write an equation to solve.



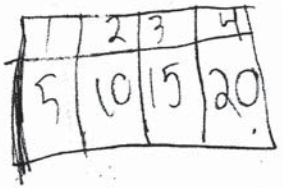
5. On the day of the play, students get 40 cartons of juice to sell. Each carton has 4 containers of juice. How many juice containers do they have? Use a number line or draw a quick picture to solve. Write an equation.

Name _____ Chapter 5

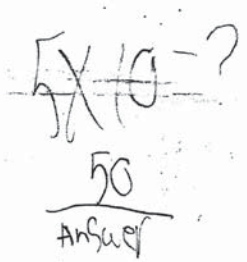
The School Play

The third grade class is putting on a school play. They are busy preparing for the play. Solve these problems using multiplication facts and strategies.

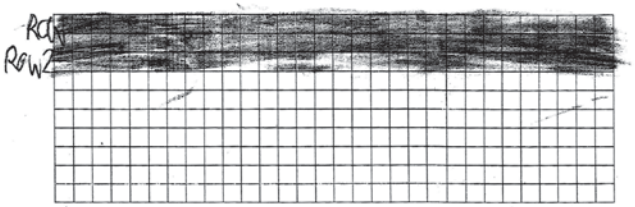
1. Rashid and Megan make 8 costumes for the play. Each costume needs 5 felt patches. How can Rashid and Megan use a table to find out how many patches they need? Draw a table to solve. Then describe the pattern in the table.



2. The felt patches come in packages of 10. How many packages will Rashid and Megan need to complete all of the costumes? Use an array, words, and numbers to solve the problem. Then write an equation.



3. A group of students set up chairs in the cafeteria for the play. They need 6 rows with 30 chairs in each row. How can the students find the number of chairs they need? Draw and label the diagram. Explain how you solved the problem.



4. Suppose the students want to put an aisle down the middle of the chairs to make 2 equal sections. How many chairs will be in each section? Write an equation to solve.

I don't know

5. On the day of the play, students get 40 cartons of juice to sell. Each carton has 4 containers of juice. How many juice containers do they have? Use a number line or draw a quick picture to solve. Write an equation.

Name _____

Chapter 6 Test
Page 1

1. For numbers 1a–1d, select True or False for each equation.

1a.	$5 \div 1 = 5$	● True	○ False
1b.	$3 \div 3 = 1$	● True	○ False
1c.	$4 \div 1 = 1$	○ True	● False
1d.	$0 \div 1 = 0$	● True	○ False

2. Elian is making 36 ounces of punch. He pours the same amount into each of 6 cups. How many ounces of punch does he pour into each cup?

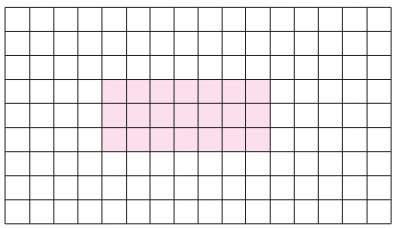
Circle the amount to complete the sentence.

Elian pours (6) / 9 / 12 / 30 ounces of punch into each cup.

3. Gina arranges her 21 puzzles in 7 equal stacks. How many puzzles does Gina put in each stack?

Shade squares to make an array to model the problem.

Answers may vary. Possible model shown.



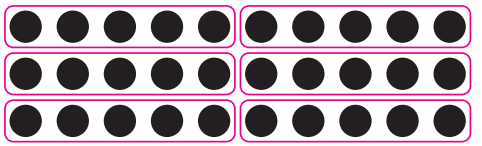
3 puzzles

Name _____

Chapter 6 Test
Page 2

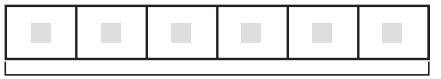
4. Philip has 30 pennies that he exchanges for nickels. He exchanges 5 pennies for each nickel. How many nickels does Philip get?

Make equal groups to model the problem.



6 nickels

5. A book has 54 pages divided into 6 equal chapters. How many pages are in each chapter?



9 pages

6. Select the equations that the array represents. Mark all that apply.

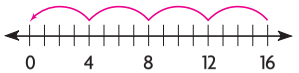
(A) $2 \times 4 = 8$	● $2 \times 3 = 6$
● $3 \times 2 = 6$	● $6 \div 2 = 3$
● $6 \div 3 = 2$	(F) $8 \div 2 = 4$

Name _____ **Chapter 6 Test Page 3**

7. The 16 players at tennis camp are divided into 4 equal groups. How many players are in each group?

Part A

Draw jumps on the number line to model the problem.



Part B

Write a division equation to represent the model.

16 ÷ 4 = 4

4 players

8. Max writes a total of 45 lines in his journal. Each journal entry is 9 lines long. How many journal entries does Max make?

Choose a number from the box to complete the sentence.

Max makes 5 journal entries.

4
5
6
7

9. A farmer sells baskets that hold 6 peaches each. Etta buys a total of 18 peaches. How many baskets of peaches does Etta buy?

Complete each equation to represent the problem.

6 × 3 = 18 18 ÷ 6 = 3

3 baskets

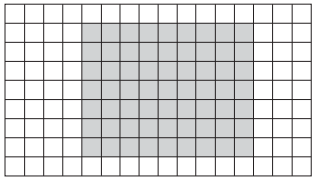
10. Penn has 12 eggs to use in some recipes. Select a way that he could divide all of the eggs equally among the recipes. Mark all that apply.

- ● 6 eggs in each of 2 recipes
- Ⓑ 5 eggs in each of 3 recipes
- ● 3 eggs in each of 4 recipes
- Ⓓ 4 eggs in each of 4 recipes
- ● 2 eggs in each of 6 recipes
- ● 4 eggs in each of 3 recipes

GO ON

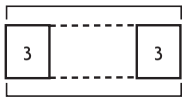
Name _____ **Chapter 6 Test Page 4**

11. Nancy made this array to model a division equation. Which equation could Nancy have modeled? Mark all that apply.



- ● 63 ÷ 7 = 9
- Ⓑ 54 ÷ 6 = 9
- Ⓒ 72 ÷ 9 = 8
- ● 63 ÷ 9 = 7

12. Rico went for a bike ride around a 3-mile loop. He rode a total of 12 miles. How many times did Rico ride his bike around the loop?



4 times

13. Write the letter for each problem in the box next to its quotient.

Ⓐ 5 ÷ 5	B 0
Ⓑ 0 ÷ 5	C 5
Ⓒ 5 ÷ 1	A 1

14. Karson earns $6 each hour babysitting. Last week she earned a total of $48 babysitting. How many hours did Karson babysit last week?

Choose a number from the box.

5
6
7
8

8 hours

GO ON

Name _____

Chapter 6 Test
Page 5

15. Write the division equation to represent the repeated subtraction.

$$\begin{array}{r} 15 \\ -\ 5 \\ \hline 10 \end{array} \quad \begin{array}{r} 10 \\ -\ 5 \\ \hline 5 \end{array} \quad \begin{array}{r} 5 \\ -\ 5 \\ \hline 0 \end{array}$$

15 ÷ 5 = 3

16. Write the related facts for the array.

5 × 5 = 25; 25 ÷ 5 = 5

Explain why there are not more related facts for the array.

Possible answer: there are only two equations because both factors are the same.

17. Sierra separates 14 animal cards into equal piles with none left over.

Draw a picture to show how Sierra divides the cards and complete the sentence.

Check students' work. Answers may vary.

Sierra made _____ piles of cards. Answers may vary. Possible answers: 1, 2, 7, or 14

Could Sierra have separated the cards into 4 equal piles with none left over? Explain why or why not.

Answers may vary. Possible answer: no, 14 cannot be separated into 4 groups of equal size with none left over.

GO ON

Name _____

Chapter 6 Test
Page 6

18. Circle numbers to complete the related facts.

6
(7)
8
9

× 6 = 42

42 ÷

5
6
(7)
8

= 6

19. Use numbers from the box to write related multiplication and division facts.

8 × 4 = 32

4 × 8 = 32

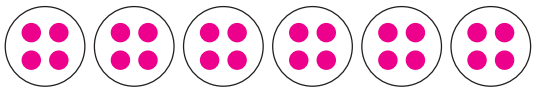
32 ÷ 8 = 4

32 ÷ 4 = 8

4
8
32

20. Angela plants 24 rosebushes in flowerbeds in her yard. She plants the same number of rosebushes in each of 6 flowerbeds.

How many rosebushes does Angela plant in each flowerbed? Show your work.



4 rosebushes

STOP

Name _____ **Chapter 6**

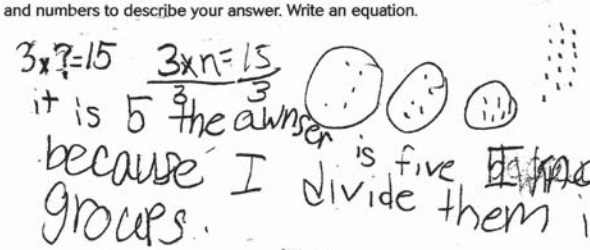
At the Farm Stand

Claudia's grandparents have a farm. They grow fruits and vegetables and sell them at a farm stand. During the summer she visits them and helps out. Claudia puts the fruits and vegetables into groups. Solve these problems using division facts and strategies.

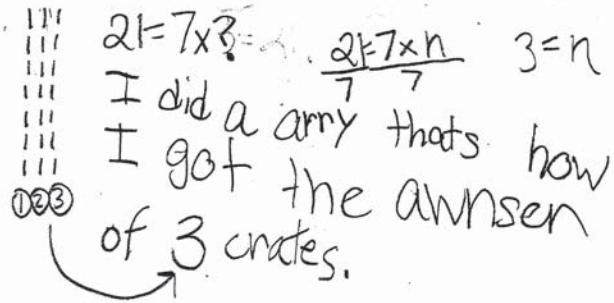
The table shows how many of each kind of fruit or vegetable Claudia picked. Use the table to answer the questions.

Fruits and Vegetables	
Type	Number
Watermelons	21
Corn	24
Pumpkins	15
Tomatoes	32

1. Claudia puts an equal number of pumpkins into 3 baskets. How many pumpkins will she put in each basket? Draw a picture. Use words and numbers to describe your answer. Write an equation.



2. Next Claudia wants to put equal groups of 7 watermelons into crates. How many crates will she need? Draw an array. Use words and numbers to describe your answer. Write an equation.



3. Claudia wants to put the corn into equal bunches. She wants to put 4 ears of corn in each bunch.

   a. How many bunches of corn will she make? Draw a picture or use a bar model to solve. Write the number of ears of corn in each bunch.

   b. Look at the groups you drew. Write four related multiplication and division facts.

6x4=24 24÷4=6
4x6=24
24÷6=4

4. Claudia wants to put tomatoes into baskets. Each basket holds 8 tomatoes. How many baskets will she need? Solve using repeated subtraction. Show your work. Then write a division sentence.

32-8=24-8=16-8=8-8=0

32÷8=4 baskets

Sample Level 3 Response

Name _____ **Chapter 6**

At the Farm Stand

Claudia's grandparents have a farm. They grow fruits and vegetables and sell them at a farm stand. During the summer she visits them and helps out. Claudia puts the fruits and vegetables into groups. Solve these problems using division facts and strategies.

The table shows how many of each kind of fruit or vegetable Claudia picked. Use the table to answer the questions.

Fruits and Vegetables	
Type	Number
Watermelons	21
Corn	24
Pumpkins	15
Tomatoes	32

1. Claudia puts an equal number of pumpkins into 3 baskets. How many pumpkins will she put in each basket? Draw a picture. Use words and numbers to describe your answer. Write an equation.

I did 3 put 5 in to 15 times and
comed with 5.
15 ÷ 3 = ?
5
answer

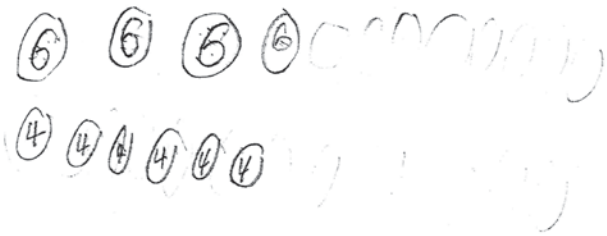
2. Next Claudia wants to put equal groups of 7 watermelons into crates. How many crates will she need? Draw an array. Use words and numbers to describe your answer. Write an equation.

She will need 3 crates
answer

21 ÷ 7 = ?

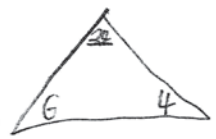
3. Claudia wants to put the corn into equal bunches. She wants to put 4 ears of corn in each bunch.

a. How many bunches of corn will she make? Draw a picture or use a bar model to solve. Write the number of ears of corn in each bunch.



b. Look at the groups you drew. Write four related multiplication and division facts.

6 × 4 = 24
4 × 6 = 24
24 ÷ 6 = 4
24 ÷ 4 = 6



4. Claudia wants to put tomatoes into baskets. Each basket holds 8 tomatoes. How many baskets will she need? Solve using repeated subtraction. Show your work. Then write a division sentence.

32 − 8 = 24
24 − 8 = 16
16 − 8 = 8
8 − 8 = 0

2
3
4

Name _____ **Chapter 6**

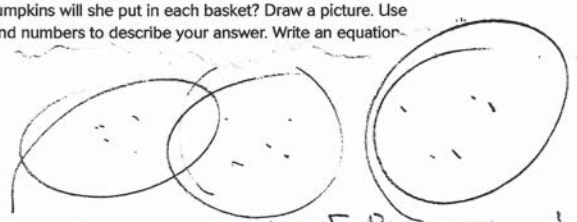
At the Farm Stand

Claudia's grandparents have a farm. They grow fruits and vegetables and sell them at a farm stand. During the summer she visits them and helps out. Claudia puts the fruits and vegetables into groups. Solve these problems using division facts and strategies.

The table shows how many of each kind of fruit or vegetable Claudia picked. Use the table to answer the questions.

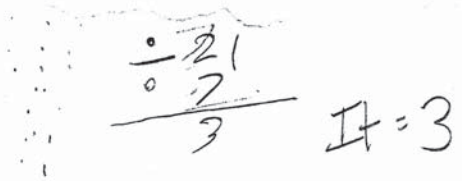
Fruits and Vegetables	
Type	**Number**
Watermelons	21
Corn	24
Pumpkins	15
Tomatoes	32

1. Claudia puts an equal number of pumpkins into 3 baskets. How many pumpkins will she put in each basket? Draw a picture. Use words and numbers to describe your answer. Write an equation.



there are 5 Pumpkins in each basket

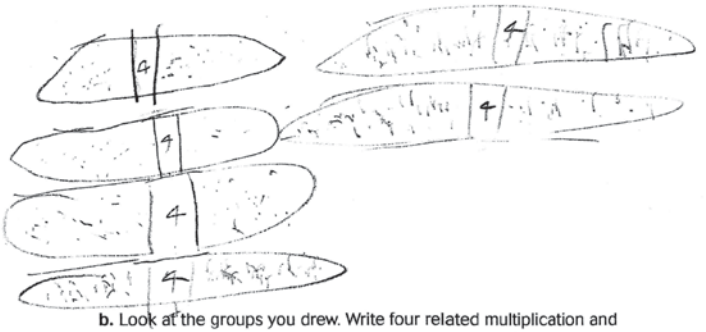
2. Next Claudia wants to put equal groups of 7 watermelons into crates. How many crates will she need? Draw an array. Use words and numbers to describe your answer. Write an equation.



21 ÷ 7 = 3

3. Claudia wants to put the corn into equal bunches. She wants to put 4 ears of corn in each bunch.

   a. How many bunches of corn will she make? Draw a picture or use a bar model to solve. Write the number of ears of corn in each bunch.



   b. Look at the groups you drew. Write four related multiplication and division facts.

4 x 6 = 24
6 x 4 = 24

4. Claudia wants to put tomatoes into baskets. Each basket holds 8 tomatoes. How many baskets will she need? Solve using repeated subtraction. Show your work. Then write a division sentence.

32 - 8 = 24
1 basket
24 - 8 = 16
2 baskets
16 - 8 = 8
3 baskets
8 - 8 = 0
4 baskets

Name _____ Chapter 6

At the Farm Stand

Claudia's grandparents have a farm. They grow fruits and vegetables and sell them at a farm stand. During the summer she visits them and helps out. Claudia puts the fruits and vegetables into groups. Solve these problems using division facts and strategies.

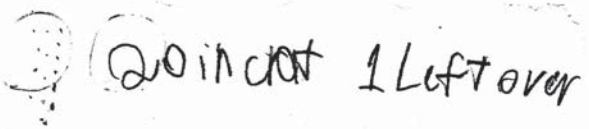
The table shows how many of each kind of fruit or vegetable Claudia picked. Use the table to answer the questions.

Fruits and Vegetables	
Type	Number
Watermelons	21
Corn	24
Pumpkins	15
Tomatoes	32

1. Claudia puts an equal number of pumpkins into 3 baskets. How many pumpkins will she put in each basket? Draw a picture. Use words and numbers to describe your answer. Write an equation.

3x2=6

2. Next Claudia wants to put equal groups of 7 watermelons into crates. How many crates will she need? Draw an array. Use words and numbers to describe your answer. Write an equation.



3. Claudia wants to put the corn into equal bunches. She wants to put 4 ears of corn in each bunch.

23 1 Left over

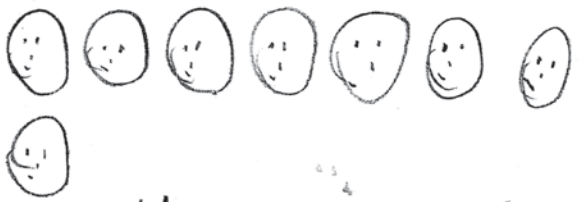
a. How many bunches of corn will she make? Draw a picture or use a bar model to solve. Write the number of ears of corn in each bunch.

24

b. Look at the groups you drew. Write four related multiplication and division facts.

24x1=24

4. Claudia wants to put tomatoes into baskets. Each basket holds 8 tomatoes. How many baskets will she need? Solve using repeated subtraction. Show your work. Then write a division sentence.



4

Name _____

Middle of Year Test
Page 1

Choose the correct answer.

1. Jasmine looks at a clock when she arrives at school.

What time is shown on the clock that Jasmine looks at?

- (A) seventeen minutes before nine
- (B) seventeen minutes after nine
- (C) seven minutes after eight
- ● seventeen minutes after eight

2. Rory started playing a computer game at 3:15 P.M. and finished playing at 3:51 P.M. For how long did Rory play the computer game?

- (A) 26 minutes
- ● 36 minutes
- (B) 31 minutes
- (D) 41 minutes

3. Mrs. Bromley pours 26 liters of cold water and 17 liters of warm water into a pail. What is the total liquid volume of water in the pail?

- (A) 9 liters
- (C) 41 liters
- (B) 33 liters
- ● 43 liters

4. Kyle uses an inch ruler to measure a leaf.

What is the length of the leaf to the nearest half inch?

- (A) $\frac{1}{2}$ inch
- (B) 1 inch
- ● $1\frac{1}{2}$ inches
- (D) 2 inches

5. The Recreation Center has 136 boys and 143 girls signed up for the summer camp program. How many boys and girls are signed up for the summer camp program altogether?

- (A) 179
- ● 279
- (C) 297
- (D) 972

GO ON

Name _____

Middle of Year Test
Page 2

6. The Fitness Center kept track of the number of people who attended different classes during the week. The table shows how many people attended each type of fitness class.

Fitness Center Classes

Type of Class	Number of People
Yoga	134
Step Aerobics	287
Spinning	163

Which is the **best** estimate of how many more people took step aerobics classes than yoga classes during the week?

- (A) 100
- (C) 300
- ● 200
- (D) 400

7. Hope writes a number sentence that shows the Commutative Property of Addition. Which could be Hope's number sentence?

- (A) $(9 + 61) + 19 = 9 + (61 + 19)$
- (B) $51 + 0 = 51$
- (C) $43 = 40 + 3$
- ● $73 + 18 = 18 + 73$

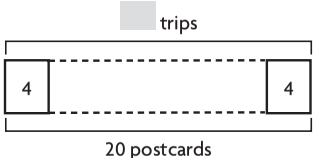
8. There are 935 students in Tanglewood Elementary School. One day, 154 of the students are out of the building for a field trip. How many students are in the building on that day?

- (A) 771
- (C) 822
- ● 781
- (D) 881

9. T.J. pays $6 for some flowers. Each flower costs $1. How many flowers does T.J. buy?

- (A) 0
- ● 6
- (B) 1
- (D) 16

10. Marcel has 20 postcards from his trips. He has 4 postcards from each of his trips. How many trips has Marcel gone on?



- ● 5
- (C) 16
- (B) 8
- (D) 24

GO ON

Name _____ **Middle of Year Test Page 3**

11. Brady has 18 trophies. He places an equal number of trophies on each of 3 shelves in his room.

How many trophies are on each shelf?

Ⓐ 2
● 6
Ⓑ 4
Ⓓ 9

12. Toby writes a set of related facts. One of the facts he writes is $45 \div 5 = 9$. Which equation is included in the same set of related facts?

Ⓐ $36 \div 9 = 4$
Ⓒ $27 \div 3 = 9$
Ⓑ $3 \times 3 = 9$
● $9 \times 5 = 45$

13. Moira uses $\frac{3}{4}$ cup flour and $\frac{2}{4}$ cup sugar in a recipe. Which statement correctly compares the fractions?

● $\frac{3}{4} > \frac{2}{4}$
Ⓒ $\frac{2}{4} = \frac{3}{4}$
Ⓑ $\frac{3}{4} < \frac{2}{4}$
Ⓓ $\frac{2}{4} > \frac{3}{4}$

14. In a survey, $\frac{1}{2}$ of students chose the swings as their favorite playground toy and $\frac{1}{4}$ of students chose the monkey bars. Which statement correctly compares the fractions?

Ⓐ $\frac{1}{4} > \frac{1}{2}$
Ⓒ $\frac{1}{2} < \frac{1}{4}$
● $\frac{1}{4} < \frac{1}{2}$
Ⓓ $\frac{1}{2} = \frac{1}{4}$

15. A mural is made using small green and orange tiles. In the mural, $\frac{4}{8}$ of the tiles are orange.

Which fraction is equivalent to $\frac{4}{8}$?

Ⓐ $\frac{1}{4}$
Ⓑ $\frac{1}{3}$
● $\frac{1}{2}$
Ⓓ $\frac{3}{4}$

GO ON

Name _____ **Middle of Year Test Page 4**

16. Mr. Hawthorne measures the lengths of three pieces of rope. The first piece of rope is $\frac{1}{4}$ foot long. The second piece of rope is $\frac{1}{2}$ foot long. The third piece of rope is $\frac{1}{3}$ foot long. Which list orders the fractions from **greatest** to **least**?

Ⓐ $\frac{1}{3}, \frac{1}{2}, \frac{1}{4}$
Ⓒ $\frac{1}{4}, \frac{1}{3}, \frac{1}{2}$
Ⓑ $\frac{1}{2}, \frac{1}{4}, \frac{1}{3}$
● $\frac{1}{2}, \frac{1}{3}, \frac{1}{4}$

17. Kara was doing her math homework. She wrote:

$$7 + 7 + 7 + 7$$

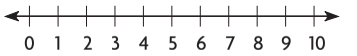
Which is another way to show what Kara wrote?

● 4×7
Ⓒ $7 + 4$
Ⓑ 7×7
Ⓓ 4×4

18. Miss Smith looked in 5 cupboards for a mug. In each cupboard she found 0 mugs. Which sentence represents the total number of mugs Miss Smith found?

Ⓐ $5 \times 1 = 5$
Ⓑ $5 + 0 = 5$
● $5 \times 0 = 0$
Ⓓ $5 - 5 = 0$

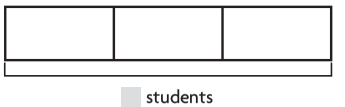
19. Dylan buys 5 packages of pens. There are 2 pens in each package.



How many pens does Dylan buy in all?

Ⓐ 6
Ⓑ 7
Ⓒ 8
● 10

20. A band leader divided the band into 3 groups. Each group had 7 students.



How many students are in the band in all?

Ⓐ 24
● 21
Ⓒ 18
Ⓓ 15

GO ON

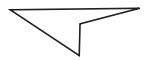
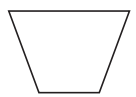
Name _____ **Middle of Year Test Page 5**

21. Andie drew an array to show the number of tables in the school cafeteria.

Which multiplication sentence shows the total number of tables in the school cafeteria?

- ● $3 \times 6 = 18$
- Ⓑ $3 \times 7 = 21$
- Ⓒ $3 \times 3 = 9$
- Ⓓ $2 \times 6 = 12$

22. Kareem draws a quadrilateral with two pairs of sides that appear to be parallel and four right angles. Which shape does Kareem draw?

- Ⓐ 
- Ⓑ 
- Ⓒ 
- ● 

23. Ryan draws a triangle.

Which word can be used to describe the dashed sides of his triangle?

- Ⓐ parallel
- ● perpendicular
- Ⓒ point
- Ⓓ quadrilateral

24. Which capital letter appears to have an angle greater than a right angle?

- Ⓐ T
- Ⓑ L
- ● K
- Ⓓ V

25. Rowan drew a polygon with 8 sides. What is the name of the polygon she drew?

- ● octagon
- Ⓑ pentagon
- Ⓒ hexagon
- Ⓓ triangle

GO ON

Name _____ **Middle of Year Test Page 6**

26. Oni spent $72 on 8 packages of model airplanes. The cost of each package was the same. What was the cost of each package?

- Ⓐ $6
- Ⓑ $7
- Ⓒ $8
- ● $9

27. A store has t-shirts on sale for $30 each. Mr. Sanderson buys 7 t-shirts for his children. How much does Mr. Sanderson spend in all on the t-shirts?

- Ⓐ $37
- ● $210
- Ⓒ $270
- Ⓓ $2,100

28. The coach bought 5 new baseball mitts. Each mitt cost $20. What was the total cost of the mitts?

- Ⓐ $10
- Ⓑ $20
- ● $100
- Ⓓ $210

29. A student makes this table showing the relationship between starfish and the number of starfish arms.

Starfish	2	3	4	5	6
Arms	10	15	20	25	30

Which of the following describes a pattern shown in the table?

- ● Multiply the number of starfish by 5.
- Ⓑ Add 10 arms for each starfish.
- Ⓒ Add 20 arms for each starfish.
- Ⓓ Multiply the number of starfish by 3.

30. Kaitlin puts her 35 crayons into 7 boxes. Each box has the same number of crayons. How many crayons does Kaitlin put into each box?

$35 \div 7 = a$

$7 \times a = 35$

- Ⓐ 4
- ● 5
- Ⓒ 6
- Ⓓ 7

GO ON

Name _____ **Middle of Year Test Page 7**

31. Paul has 30 tomato plants in his garden. He has 10 tomato plants in each row of his garden. How many rows of his garden does he use for tomato plants?

- ● 3
- (C) 13
- (B) 10
- (D) 40

32. Juan has 3 packages of markers. Each package has the same number of markers. His sister gives him 4 more markers. Now he has 28 markers. How many markers were in each package?

- (A) 7
- (C) 32
- ● 8
- (D) 35

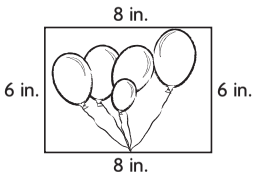
33. Riana uses the order of operations to find the unknown number.

$$1 + 5 \times 4 = b$$

What is the unknown number?

- (A) $b = 6$
- (B) $b = 20$
- ● $b = 21$
- (D) $b = 24$

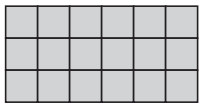
34. Gina wants to put a piece of blue yarn around a picture she drew.



How many inches of blue yarn does Gina need for the perimeter of the picture?

- (A) 14 inches
- ● 28 inches
- (C) 36 inches
- (D) 48 inches

35. The drawing shows Jack's bedroom closet. Each unit square is 1 square foot.



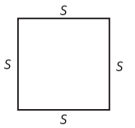
Which equation can Jack use to find the area of his bedroom closet?

- (A) $3 + 6 = 9$
- (B) $3 + 6 + 3 + 6 = 18$
- (C) $2 \times 6 = 12$
- ● $3 \times 6 = 18$

GO ON

Name _____ **Middle of Year Test Page 8**

36. Dan uses a ruler to draw a square. The perimeter of the square is 36 centimeters.



What is the length of one side of the square?

- (A) 6 centimeters
- ● 9 centimeters
- (C) 12 centimeters
- (D) 72 centimeters

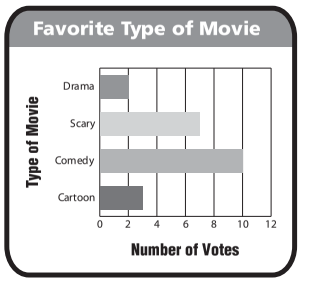
37. There are two dog runs at the animal clinic. The first dog run is 10 feet long and 3 feet wide. The second dog run is the same length as the first dog run. The area of the second dog run is twice the area of the first dog run. What is the width of the second dog run?

- (A) 2 feet
- (B) 3 feet
- ● 6 feet
- (D) 12 feet

38. John is making a bar graph to show the favorite colors of his classmates. Which color will have the shortest bar in his graph?

- (A) 5 votes for green
- (B) 8 votes for blue
- ● 2 votes for yellow
- (D) 6 votes for red

39. Lucy made a bar graph to show her classmates' favorite types of movies.



How many more students chose scary movies than cartoon movies?

- (A) 3
- (C) 5
- ● 4
- (D) 7

GO ON

Name _____ **Middle of Year Test Page 9**

40. Heather took a survey to find her classmates' favorite hobbies. Heather shows the number of students who chose each hobby in a tally table.

Favorite Hobbies	
Hobby	**Tally**
Sports	𝍸 𝍸 ||
Computers	||||
Music	𝍸 |||
Crafts	||

How many students chose sports or crafts?

(A) 10
● 14
(B) 12
(D) 16

41. A third-grade class made a picture graph to show the number of sunny days in October. This is the key to their picture graph.

Key: Each ☼ = 4 days.

How many days does ☼☼☼☼ stand for?

(A) 3
(C) 12
(B) 7
● 14

42. A school van has seats for 9 student riders. There are 6 school vans needed for a trip. How many student riders can ride in the vans in all?

(A) 15
(C) 45
(B) 36
● 54

43. A student makes 4 servings of fruit salad. Each serving has 8 blueberries. How many blueberries are needed for all 4 servings of fruit salad?

(A) 40
(C) 16
● 32
(D) 12

44. Tennis balls are sold in tubes that hold 3 tennis balls each. A store stacks 2 rows of tennis ball tubes on its shelf. Each row has 7 tubes in it. How many tennis balls are there in all?

● 42
(C) 14
(B) 21
(D) 6

GO ON

Name _____ **Middle of Year Test Page 10**

45. Aidan writes a number sentence that is an example of the Distributive Property. Which shows Aidan's number sentence?

(A) $3 \times 9 = 20 + 7$
● $3 \times 9 = (3 \times 5) + (3 \times 4)$
(C) $3 \times 9 = 3 \times (5 \times 4)$
(D) $3 \times 9 = 9 \times 4$

46. Linda wants to make $0.25 using quarters, dimes, and nickels. How many different ways can she make $0.25?

(A) 2
● 4
(B) 3
(D) 5

47. Three friends share 4 granola bars equally.

How much does each friend get?

● 1 whole and 1 third
(B) 1 whole and 1 fourth
(C) 1 whole and 1 eighth
(D) 1 whole and 1 half

48. Mark divides this shape into equal parts.

What is the name for the parts?

(A) thirds
(B) eighths
● fourths
(D) halves

49. Kelly bakes 18 muffins for a bake sale. One third of the muffins are blueberry. How many of the muffins are blueberry?

(A) 2
(C) 4
(B) 3
● 6

50. There are 4 students standing in line at the water fountain. Three of the students in line are wearing blue jeans. What fraction of the students in line are wearing blue jeans?

(A) $\frac{1}{4}$
(C) $\frac{3}{3}$
● $\frac{3}{4}$
(D) $\frac{4}{3}$

STOP

Name _____

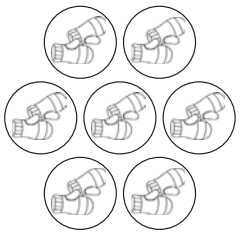
Chapter 7 Test
Page 1

1. Shang shared 28 postcards among 7 different people. Each person received the same number of postcards. How many postcards did Shang give to each person?

$$28 \div 7 = n$$
$$7 \times n = 28$$

- (A) 4
- (B) 5
- (C) 6
- (D) 21

2. Lionel has 14 mittens.



Select one number from each column to show the division equation represented by the picture.

14 ÷ ___?___ = ___?___
(divisor) (quotient)

Divisor	Quotient
○ 1	○ 1
● 2	○ 2
○ 12	● 7
○ 14	○ 14

Name _____

Chapter 7 Test
Page 2

3. Fifteen people are going rafting. They brought 5 rafts. An equal number of people ride in each raft. How many people will be in each raft?

___3___ people

4. Circle a number for the unknown factor and quotient that makes the equation true.

$4 \times$ [(6) 7 8] $= 24$ [(6) 7 8] $= 24 \div 4$

5. There are 20 students in science class. There are 10 students sitting at each table. How many tables are there?

$$\begin{array}{r} 20 \\ -\ 10 \\ \hline 10 \end{array} \quad \begin{array}{r} 10 \\ -\ 10 \\ \hline 0 \end{array}$$

Write a division equation to represent the repeated subtraction.

___20___ ÷ ___10___ = ___2___

6. Complete the chart to show the quotients.

÷	63	72	81	90
9	7	8	9	10

Name _____

Chapter 7 Test
Page 3

7. For numbers 7a–7e, select True or False for each equation.

7a.	$0 \div 6 = 6$	○ True	● False
7b.	$6 \div 6 = 1$	● True	○ False
7c.	$18 \div 6 = 2$	○ True	● False
7d.	$54 \div 6 = 9$	● True	○ False
7e.	$60 \div 10 = 6$	● True	○ False

8. Kaitlyn says that $8 \div 2 \times 4$ is the same as $4 \times 2 \div 8$. Is Kaitlyn correct or incorrect? Explain.

Kaitlyn is incorrect; Possible answer: according to the order of operations, you multiply and divide from left to right. So, when division is first in the problem, $8 \div 2 \times 4 = 4 \times 4 = 16$. When multiplication is first, $4 \times 2 \div 8 = 8 \div 8 = 1$. The values are different.

9. Brian is dividing 64 baseball cards equally among 8 friends. How many baseball cards will each friend get?

8 baseball cards

10. Tara made $18 selling cookies. She wants to know how many cookies she sold. Tara used this number line.

Write the division equation that the number line represents.

18 ÷ **3** = **6**

GO ON

Name _____

Chapter 7 Test
Page 4

11. Each team at a science competition has 6 players. How many teams are there if 42 players are at the competition? Explain the strategy you used to solve the problem.

7 teams; Possible explanations: students may use a related multiplication fact, do repeated subtraction, or make equal groups.

12. Carly bought 3 packs of baseball cards. Each pack had the same number of cards. She gave 5 cards to her sister. Now she has 19 cards. How many baseball cards were in each pack? Explain how you solved the problem.

8 baseball cards; Possible explanation: I drew 19 cards and then drew 5 more to show the cards she gave her sister; 19 + 5 = 24. Then I divided 24 cards into 3 equal groups of 8.

13. Andrea used 35 craft sticks to make 7 door hangers. She used the same number of craft sticks for each door hanger. How many craft sticks did Andrea use for each door hanger?

5 craft sticks

14. For numbers 14a–14e, use the order of operations. Select True or False for each equation.

14a.	$45 \div 5 - 3 = 6$	● True	○ False
14b.	$12 + 4 \div 4 = 13$	● True	○ False
14c.	$3 + 7 \times 8 = 80$	○ True	● False
14d.	$32 \div 8 \times 2 = 2$	○ True	● False
14e.	$40 - 10 \times 3 = 10$	● True	○ False

GO ON

Name _____ **Chapter 7 Test Page 5**

15. Patrick sells homemade pretzels in bags with 9 pretzels in each bag. He sells 54 pretzels in all. How many bags of pretzels does he sell?

6 bags

16. Enrique started a table showing a division pattern.

÷	10	20	30	40
10	1	2	3	4
5	2	4	6	8

Part A

Complete the table.

Compare the quotients when dividing by 10 and when dividing by 5. Describe a pattern you see in the quotients.

Possible answer: the quotient when dividing by 5 is double the quotient when dividing by 10.

Part B

Find the quotient, *a*.

$80 \div 10 = a$

$a =$ 8

How could you use *a* to find the value of *n*? Find the value of *n*.

$80 \div 5 = n$

$n =$ 16

Possible explanation: to find 80 ÷ 5, I can double the value of *a*. Since *a* = 8, *n* = 8 + 8 = 16.

17. Eve needs 2 limes to make a glass of limeade. If limes come in bags of 12, how many glasses of limeade can she make using one bag?

6 glasses

GO ON

Name _____ **Chapter 7 Test Page 6**

18. For numbers 18a–18e, select True or False for each equation.

18a.	$18 \div 9 = 2$	● True	○ False
18b.	$27 \div 9 = 4$	○ True	● False
18c.	$45 \div 9 = 5$	● True	○ False
18d.	$72 \div 9 = 7$	○ True	● False
18e.	$81 \div 9 = 8$	○ True	● False

19. Holly is making 4 vegetable trays for a party. She wants to divide 36 carrot sticks equally among the trays. How many carrot sticks will she put on each tray?

9 carrot sticks

20. Hector is buying books at a book store.

Part A

He buys 2 used books and 1 new book for $26. The new book costs $18. Each used book costs the same amount. What is the price of each used book? Explain the steps you used to solve the problem.

$4; Possible explanation: I subtracted 26 − 18 to get 8. Then I divided 8 by 2. 8 ÷ 2 = 4, so each used book cost $4.

Part B

Hector also buys a reading light for $12 and 2 journals for $8 each to give as gifts. Write one equation to describe the total amount Hector spends on gifts. Explain how to use the order of operations to solve the equation.

$12 + 2 \times 8 = n$; Possible explanation: first, I multiply 2 × 8 to get 16. Then I add 12 to get 28. *n* = 28, so Hector spends $28.

STOP

Name _____ Chapter 7

Habib's Pet Shop

Habib's Pet Shop sells supplies for all kinds of pets. Each day Habib gets new supplies for his shop. Use division strategies to solve the problems.

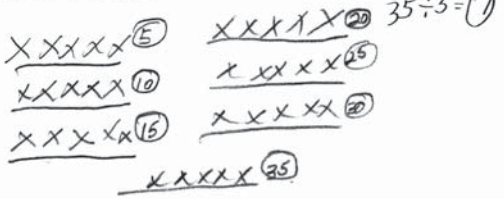
The table shows supplies Habib got today. Use the table to solve each problem. Choose a strategy to solve. Then write a division equation. Show your work.

Habib's Pet Shop	
Supply	Number
Cat Toys	42
Dog Chews	28
Fish Food	54
Pet Beds	35

1. Habib wants to put the cat toys in a display of equal groups on 6 racks. How many of each toy will Habib put on each rack?

42 ÷ 6 = 7

2. Habib wants to put the pet beds on shelves in equal groups of 5. How many shelves will Habib need?



35 ÷ 5 = 7

3. Habib wants to put dog chews into baskets. Each basket holds 7 dog chews. How many baskets does Habib need? Solve by using repeated subtraction. Show your work. Write a division sentence and a related multiplication sentence.

28 − 7 = 21
21 − 7 = 14
14 − 7 = 7
7 − 7 = 0

28 ÷ 7 = 4 7 × 4 = 28

4. Fish food comes in boxes with 9 containers of food in each box. Habib sells 2 boxes of food. He wants to arrange the remaining fish food containers into equal groups.

a. How many containers of fish food are left? Show how you solved the problem.

2 × 9 = 18
54 − 18 = 36 containers left

b. How can Habib arrange the containers so they are in equal groups? Describe the strategy you will use to solve. Show your work. Then write a division sentence.

I used the nine array then saw if it was right.

36 ÷ 4 = 9 containers in each grop

Name _____ **Chapter 7**

Habib's Pet Shop

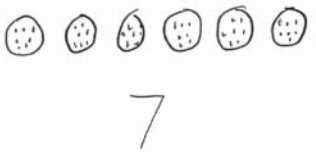
Habib's Pet Shop sells supplies for all kinds of pets. Each day Habib gets new supplies for his shop. Use division strategies to solve the problems.

The table shows supplies Habib got today. Use the table to solve each problem. Choose a strategy to solve. Then write a division equation. Show your work.

Habib's Pet Shop	
Supply	**Number**
Cat Toys	42
Dog Chews	28
Fish Food	54
Pet Beds	35

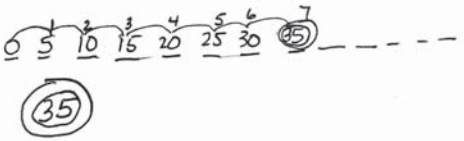
1. Habib wants to put the cat toys in a display of equal groups on 6 racks. How many of each toy will Habib put on each rack?

6 ×6 = 36 ; 6 ×7 = 42 ; 6)42 → 07



7

2. Habib wants to put the pet beds on shelves in equal groups of 5. How many shelves will Habib need?



7

3. Habib wants to put dog chews into baskets. Each basket holds 7 dog chews. How many baskets does Habib need? Solve by using repeated subtraction. Show your work. Write a division sentence and a related multiplication sentence.

28 − 7 = 21 ; 21 − 7 = 14 ; 14 ÷ 7 = 7

He needs 4.

14 − 7 = 0

4. Fish food comes in boxes with 9 containers of food in each box. Habib sells 2 boxes of food. He wants to arrange the remaining fish food containers into equal groups.

a. How many containers of fish food are left? Show how you solved the problem.

2 × 9 = 18

36 in my head

18 − 18 = 0

b. How can Habib arrange the containers so they are in equal groups? Describe the strategy you will use to solve. Show your work. Then write a division sentence.

4)36 = 9

36 ÷ 4 = 9

I divided.

Sample Level 2 Response

Name _____ Chapter 7

Habib's Pet Shop

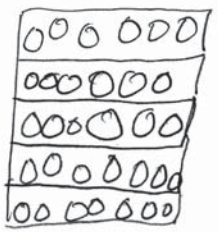
Habib's Pet Shop sells supplies for all kinds of pets. Each day Habib gets new supplies for his shop. Use division strategies to solve the problems.

The table shows supplies Habib got today. Use the table to solve each problem. Choose a strategy to solve. Then write a division equation. Show your work.

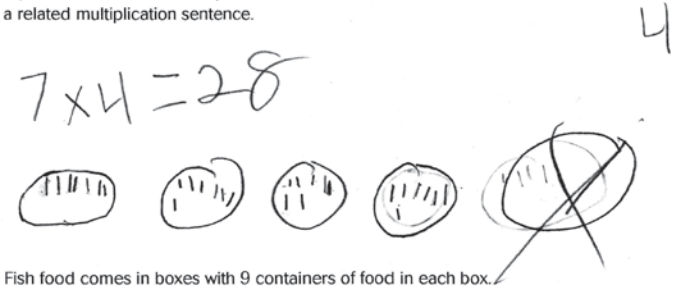
Habib's Pet Shop	
Supply	Number
Cat Toys	42
Dog Chews	28
Fish Food	54
Pet Beds	35

1. Habib wants to put the cat toys in a display of equal groups on 6 racks. How many of each toy will Habib put on each rack?

2. Habib wants to put the pet beds on shelves in equal groups of 5. How many shelves will Habib need?

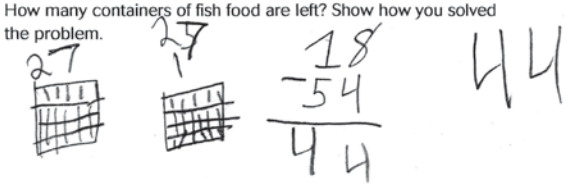


3. Habib wants to put dog chews into baskets. Each basket holds 7 dog chews. How many baskets does Habib need? Solve by using repeated subtraction. Show your work. Write a division sentence and a related multiplication sentence.



4. Fish food comes in boxes with 9 containers of food in each box. Habib sells 2 boxes of food. He wants to arrange the remaining fish food containers into equal groups.

a. How many containers of fish food are left? Show how you solved the problem.



b. How can Habib arrange the containers so they are in equal groups? Describe the strategy you will use to solve. Show your work. Then write a division sentence.

Name _____ **Chapter 7**

Habib's Pet Shop

Habib's Pet Shop sells supplies for all kinds of pets. Each day Habib gets new supplies for his shop. Use division strategies to solve the problems.

The table shows supplies Habib got today. Use the table to solve each problem. Choose a strategy to solve. Then write a division equation. Show your work.

Habib's Pet Shop	
Supply	**Number**
Cat Toys	42
Dog Chews	28
Fish Food	54
Pet Beds	35

1. Habib wants to put the cat toys in a display of equal groups on 6 racks. How many of each toy will Habib put on each rack?

42 ÷ 6 = 6

2. Habib wants to put the pet beds on shelves in equal groups of 5. How many shelves will Habib need?

35 X 5 = 175

3. Habib wants to put dog chews into baskets. Each basket holds 7 dog chews. How many baskets does Habib need? Solve by using repeated subtraction. Show your work. Write a division sentence and a related multiplication sentence.

4. Fish food comes in boxes with 9 containers of food in each box. Habib sells 2 boxes of food. He wants to arrange the remaining fish food containers into equal groups.

   a. How many containers of fish food are left? Show how you solved the problem.

9 X 2 = 18

   b. How can Habib arrange the containers so they are in equal groups? Describe the strategy you will use to solve. Show your work. Then write a division sentence.

Sample Level 0 Response

Name _____ **CRITICAL AREA** Whole Number Operations

At the Toy Store

Elena and Jorge own a toy store. Every day they sell toys. They must also order new toys to replace the ones they sell. They use math strategies to solve problems about the toy store.

1. The table shows how many toys Elena and Jorge sold over 3 months. Use the data to solve the problems.

Toys Sold	
Month	Number
April	172
May	317
June	243

317
+172
489

a. Elena wants to find how many toys were sold in April and May. Estimate. Then add to find the sum. Describe the strategies you used. Show your work.

I used compatible numbers to estimate.

I combine place valy to add.

175
+325
500

b. Jorge wants to find how many more toys were sold in April and May than in June. Estimate. Then subtract to find the difference. Choose a strategy and solve. Show your work.

I used rounding to estimate.

500
-250
250

I used the break apart strategy to solve.

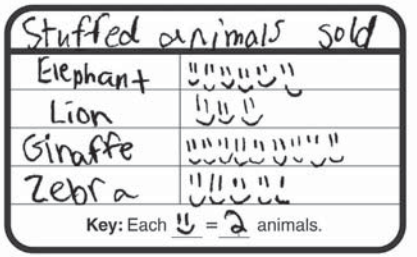
400 - 200 = 200
80 - 40 = 40
9 - 3 = 6
200 + 40 + 6 = 246

246 more toys were sold.

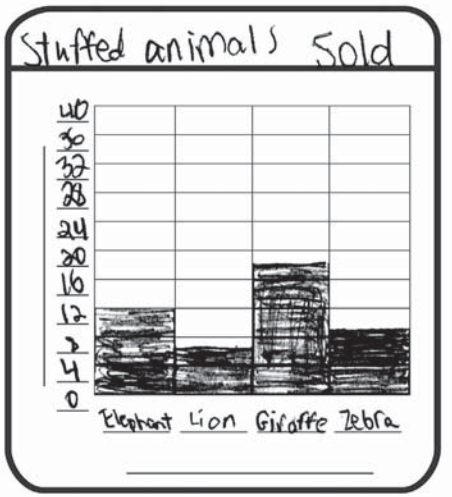
2. The table shows how many stuffed animals Elena and Jorge sold in one week. Use the data to solve the problems.

Stuffed Animals Sold	
Animal	Number
Elephant	𝍸 𝍸 ||
Lion	𝍸 |
Giraffe	𝍸 𝍸 𝍸 |||
Zebra	𝍸 ||||

a. Use the data to make a picture graph. Think of a key you will use.

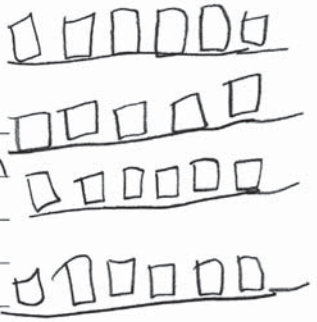


b. Use the data to make a bar graph. Use a different key than in the picture graph.



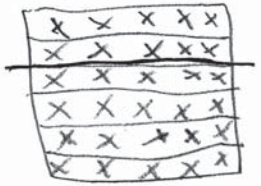
3. Elena displays boxes of games on 4 shelves. She puts 6 games onto each shelf. How many games does Elena display? Choose a strategy to solve. Describe your strategy. Show your work.

I Draw four lines for shelfs then 6 boxes on each shelf for the games. Elena displays 24 games.



4. Jorge opens a box of new action figures. The box has 6 rows with 5 action figures in each row.

a. Show how Jorge can use an array and the Distributive Property to find how many action figures are in the box.



6x5 = (2x5) + (4x5)
6x5 = 10 + 20
6x5 = 30
30 action figurs

b. The toy store has a total of 7 boxes of action figures. Each box holds the same number of figures as in 4a above. Show how Jorge can use the break apart strategy or a quick picture to find how many action figures in all.
Remember: You break apart 20 as 10 + 10.

7x30 = 210

I break apart 30 to 10, 10, 10
I know 7x10 = 70
70 + 70 + 70 = 210 so

5. Jorge makes a table to show how many kinds of outdoor toys he has. Use the table to answer the questions.

Outdoor Toys	
Kind of Toy	Number
Airplanes	18
Yoyos	48
Rockets	27

a. Jorge wants to put equal groups of rockets into 3 baskets. How many rockets will go in each basket? Draw a picture to solve. Show your work. Then write a related multiplication fact.

3x? = 27

? = 9

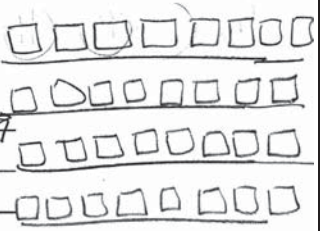
b. Use the information in the chart to find how many yoyos are in the store. Yoyos come in packages of 8. Elena sells 2 packages. How many yoyos does Elena have now? Show how you solved the problem.

2x8 = 16

48
-16
32 yoyos now

c. How can Elena arrange the yoyos so they are in equal groups? Describe the strategy you will use to solve. Show your work. Then write a division sentence and a related multiplication sentence.

4x8 = 32 32÷4 = 8
I made an array 32 packages on 4 shelfs



Name _____ **CRITICAL AREA** Whole Number Operations

At the Toy Store

Elena and Jorge own a toy store. Every day they sell toys. They must also order new toys to replace the ones they sell. They use math strategies to solve problems about the toy store.

1. The table shows how many toys Elena and Jorge sold over 3 months. Use the data to solve the problems.

Toys Sold	
Month	Number
April	172
May	317
June	243

170
320
490

317
+172
489

a. Elena wants to find how many toys were sold in April and May. Estimate. Then add to find the sum. Describe the strategies you used. Show your work.

the strategie I used is I add 172+0 317 and it equaled 489.

b. Jorge wants to find how many more toys were sold in April and May than in June. Estimate. Then subtract to find the difference. Choose a strategy and solve. Show your work.

246

500
250 -250

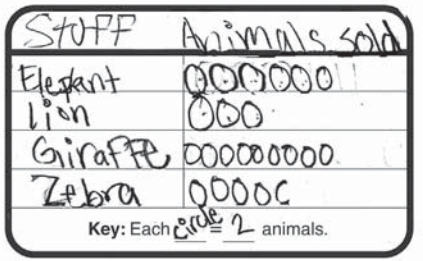
my strategy was break apart.

400-200=200
80-40=40
9-3=6
246

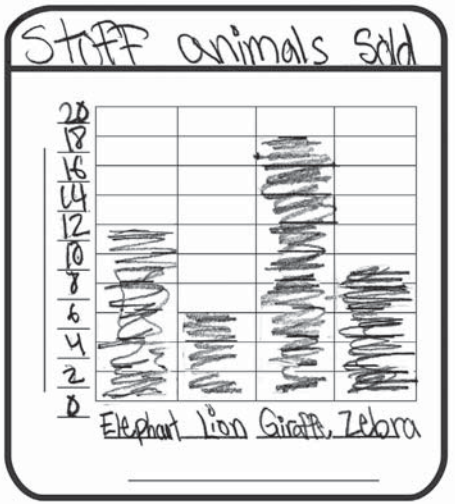
2. The table shows how many stuffed animals Elena and Jorge sold in one week. Use the data to solve the problems.

Stuffed Animals Sold	
Animal	Number
Elephant	𝍸 𝍸 ||
Lion	𝍸 |
Giraffe	𝍸 𝍸 𝍸 |||
Zebra	𝍸 ||||

a. Use the data to make a picture graph. Think of a key you will use.



b. Use the data to make a bar graph. Use a different key than in the picture graph.



3. Elena displays boxes of games on 4 shelves. She puts 6 games onto each shelf. How many games does Elena display? Choose a strategy to solve. Describe your strategy. Show your work.

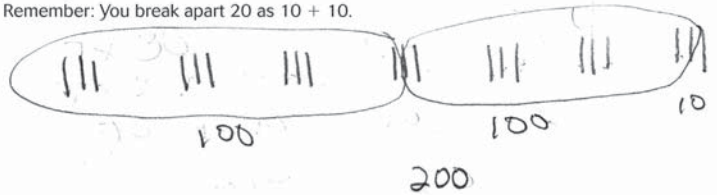
24 on each shelf my strategy is multiple 6x4=24 because there was 4 on each shelf.

4. Jorge opens a box of new action figures. The box has 6 rows with 5 action figures in each row.

a. Show how Jorge can use an array and the Distributive Property to find how many action figures are in the box.

30 action figures.

b. The toy store has a total of 7 boxes of action figures. Each box holds the same number of figures as in 4a above. Show how Jorge can use the break apart strategy or a quick picture to find how many action figures in all.
Remember: You break apart 20 as 10 + 10.



5. *Jorge makes a table to show* how many kinds of outdoor toys he has. Use the table to answer the questions.

Outdoor Toys	
Kind of Toy	Number
Airplanes	18
Yoyos	48
Rockets	27

a. Jorge wants to put equal groups of rockets into 3 baskets. How many rockets will go in each basket? Draw a picture to solve. Show your work. Then write a related multiplication fact.

9x3=27

3x9=27

b. Use the information in the chart to find how many yoyos are in the store. Yoyos come in packages of 8. Elena sells 2 packages. How many yoyos does Elena have now? Show how you solved the problem.

8x2=16

32 yoyo's left.

48
-16
32

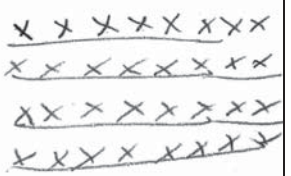
c. How can Elena arrange the yoyos so they are in equal groups? Describe the strategy you will use to solve. Show your work. Then write a division sentence and a related multiplication sentence.

picture array

She could divid

32÷4=8

4x8=32



Name _____ **CRITICAL AREA** Whole Number Operations

At the Toy Store

Elena and Jorge own a toy store. Every day they sell toys. They must also order new toys to replace the ones they sell. They use math strategies to solve problems about the toy store.

1. The table shows how many toys Elena and Jorge sold over 3 months. Use the data to solve the problems.

Toys Sold	
Month	**Number**
April	172
May	317
June	243

a. Elena wants to find how many toys were sold in April and May. Estimate. Then add to find the sum. Describe the strategies you used. Show your work.

500, 489 is the answer

489
- 243
246

b. Jorge wants to find how many more toys were sold in April and May than in June. Estimate. Then subtract to find the difference. Choose a strategy and solve. Show your work.

489
- 243
246

2. The table shows how many stuffed animals Elena and Jorge sold in one week. Use the data to solve the problems.

Stuffed Animals Sold	
Animal	**Number**
Elephant	𝍸 𝍸 ||
Lion	𝍸 |
Giraffe	𝍸 𝍸 𝍸 |||
Zebra	𝍸 ||||

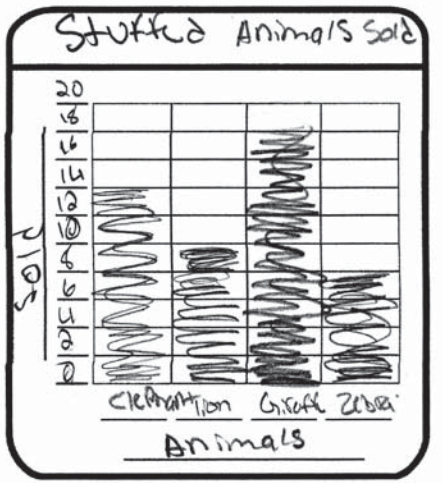
a. Use the data to make a picture graph. Think of a key you will use.

Stuffed animals sold

elephant	☺☺
Lion	☺
Giraffe	☺☺☺☺☺
Zebra	☺☺

Key: Each ☺ = 6 animals.

b. Use the data to make a bar graph. Use a different key than in the picture graph.



Sample Level 1 Response

3. Elena displays boxes of games on 4 shelves. She puts 6 games onto each shelf. How many games does Elena display? Choose a strategy to solve. Describe your strategy. Show your work.

6x4=24 there are 24 games shown.

4. Jorge opens a box of new action figures. The box has 6 rows with 5 action figures in each row.

a. Show how Jorge can use an array and the Distributive Property to find how many action figures are in the box.

6 x 5

30 af in each box

b. The toy store has a total of 7 boxes of action figures. Each box holds the same number of figures as in 4a above. Show how Jorge can use the break apart strategy or a quick picture to find how many action figures in all.
Remember: You break apart 20 as 10 + 10.

30x7=140

5. *Jorge makes a table to show* how many kinds of outdoor toys he has. Use the table to answer the questions.

Outdoor Toys	
Kind of Toy	Number
Airplanes	18
Yoyos	48
Rockets	27

a. Jorge wants to put equal groups of rockets into 3 baskets. How many rockets will go in each basket? Draw a picture to solve. Show your work. Then write a related multiplication fact.

3x9=27

b. Use the information in the chart to find how many yoyos are in the store. Yoyos come in packages of 8. Elena sells 2 packages. How many yoyos does Elena have now? Show how you solved the problem.

8 x 2 = 16

She has 16

c. How can Elena arrange the yoyos so they are in equal groups? Describe the strategy you will use to solve. Show your work. Then write a division sentence and a related multiplication sentence.

4x4=16. She could use 4 groups of four

Name _____ CRITICAL AREA Whole Number Operations

At the Toy Store

Elena and Jorge own a toy store. Every day they sell toys. They must also order new toys to replace the ones they sell. They use math strategies to solve problems about the toy store.

1. The table shows how many toys Elena and Jorge sold over 3 months. Use the data to solve the problems.

Toys Sold	
Month	Number
April	172
May	317
June	243

a. Elena wants to find how many toys were sold in April and May. Estimate. Then add to find the sum. Describe the strategies you used. Show your work.

172 + 317 = 489

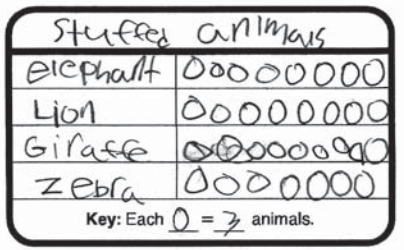
b. Jorge wants to find how many more toys were sold in April and May than in June. Estimate. Then subtract to find the difference. Choose a strategy and solve. Show your work.

$$\begin{array}{r} 317 \\ +\ 172 \\ \hline 489 \end{array} \qquad \begin{array}{r} 489 \\ -\ 243 \\ \hline 246 \end{array} \qquad 246$$

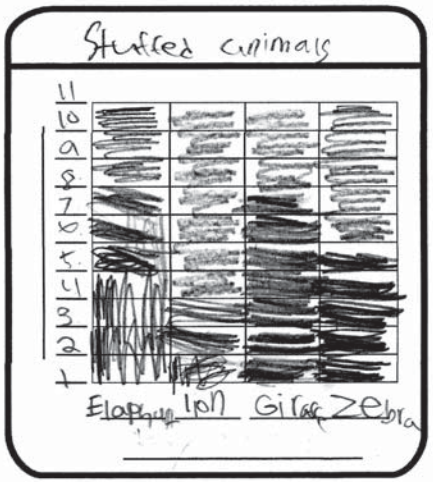
2. The table shows how many stuffed animals Elena and Jorge sold in one week. Use the data to solve the problems.

Stuffed Animals Sold	
Animal	Number
Elephant	𝍸 𝍸 ||
Lion	𝍸 |
Giraffe	𝍸 𝍸 𝍸 |||
Zebra	𝍸 ||||

a. Use the data to make a picture graph. Think of a key you will use.



b. Use the data to make a bar graph. Use a different key than in the picture graph.



3. Elena displays boxes of games on 4 shelves. She puts 6 games onto each shelf. How many games does Elena display? Choose a strategy to solve. Describe your strategy. Show your work.

add 10 games + 6

4
6
10

4. Jorge opens a box of new action figures. The box has 6 rows with 5 action figures in each row.

a. Show how Jorge can use an array and the Distributive Property to find how many action figures are in the box.

6
x 5
11

b. The toy store has a total of 7 boxes of action figures. Each box holds the same number of figures as in 4a above. Show how Jorge can use the break apart strategy or a quick picture to find how many action figures in all.
Remember: You break apart 20 as 10 + 10.

11
+ 7
18

5. *Jorge makes a table to show* how many kinds of outdoor toys he has. Use the table to answer the questions.

Outdoor Toys	
Kind of Toy	Number
Airplanes	18
Yoyos	48
Rockets	27

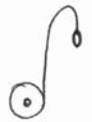
a. Jorge wants to put equal groups of rockets into 3 baskets. How many rockets will go in each basket? Draw a picture to solve. Show your work. Then write a related multiplication fact.

b. Use the information in the chart to find how many yoyos are in the store. Yoyos come in packages of 8. Elena sells 2 packages. How many yoyos does Elena have now? Show how you solved the problem.

8
+ 2
10

c. How can Elena arrange the yoyos so they are in equal groups? Describe the strategy you will use to solve. Show your work. Then write a division sentence and a related multiplication sentence.

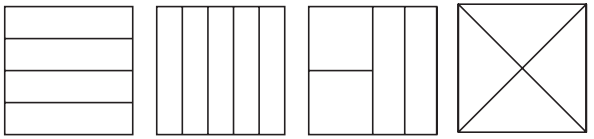
10



Name _____

Chapter 8 Test
Page 1

1. Each shape is divided into equal parts. Select the shapes that show fourths. Mark all that apply.

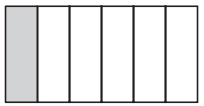


● Ⓑ ● ●

2. What fraction names the shaded part of the shape?

Ⓐ 3 eighths
● 5 eighths
Ⓒ 6 eighths
Ⓓ 8 eighths

3. The shaded part of the model shows what part of a garden is planted with peas. What fraction names the shaded part? Explain how you know how to write the fraction.



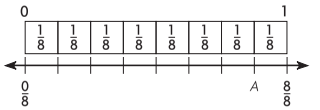
$\frac{1}{6}$; Possible explanation: There are 6 equal parts and 1 part is shaded, so I write 1 on the top and 6 on the bottom.

GO ON

Name _____

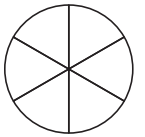
Chapter 8 Test
Page 2

4. What fraction names point *A* on the number line?



$\frac{7}{8}$

5. Kwan divided this circle into equal parts. Circle the word that makes the sentence true.



The circle is divided into (sixths / eighths / fourths).

6. Sophie uses 16 beads to make a necklace. One fourth of the beads are purple. How many of the beads are purple?

4 beads

7. Four brothers work together to mow 3 equal-sized fields. Each brother mows the same amount.

How much does each brother mow? Mark all that apply.

Ⓐ 4 thirds of a field
Ⓑ 1 whole and 1 third of a field
● 3 fourths of a field
Ⓓ 2 thirds of a field
Ⓔ 1 fourth of a field

GO ON

Name _____

Chapter 8 Test
Page 3

8. Bailey shaded this model.

Select one number from each column to show the part of the model Bailey shaded.

Numerator	Denominator
○ 1	○ 2
○ 2	○ 4
● 4	○ 5
○ 6	● 6

9. Jayson baked a pan of cornbread for a family dinner. He cut the cornbread into equal size pieces. At the end of the dinner, there were 2 pieces left. Explain how you find the number of pieces in the whole pan of cornbread if Jayson told you that $\frac{1}{6}$ of the pan was left. Use a drawing to show your work.

Possible explanation: The denominator in $\frac{1}{6}$ is 6, so I drew 6 ovals. Since 2 pieces are $\frac{1}{6}$ of the pan, I drew 2 counters in each oval. $6 \times 2 = 12$, so there were 12 pieces in the whole pan of cornbread.

GO ON

Name _____

Chapter 8 Test
Page 4

10. The model shows one whole. What fraction of the model is NOT shaded?

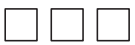
$\frac{3}{4}$

11. Michael replaced $\frac{1}{3}$ of the buttons on his coat. If he replaced a total of 3 buttons, how many buttons are on his coat? Show your work.

Check students' work.

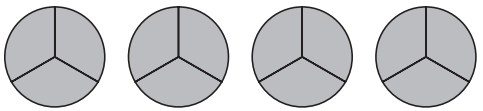
9 buttons

12. Four teachers share 3 gallons of paint equally. How much paint does each teacher get?



Possible answers: 3 fourths, or 1 half and 1 fourth of a box

13. Each shape is 1 whole.



For numbers 13a–13e, choose Yes or No to show whether the number names the parts that are shaded.

13a. 3	○ Yes	● No
13b. 4	● Yes	○ No
13c. $\frac{12}{3}$	● Yes	○ No
13d. $\frac{12}{4}$	○ Yes	● No
13e. $\frac{3}{12}$	○ Yes	● No

GO ON

Name _____

14. A store sold 6 fruit trees. Five of the trees were apple trees. What fraction of the trees were apple trees?

$\frac{5}{6}$

15. Christina and Erin made vegetable trays for a neighborhood picnic.

Part A

Christina put 15 vegetables on her tray. If $\frac{1}{5}$ of the vegetables were carrots, how many carrots were on the tray? Make a drawing to show your work.

3 carrots

Part B

Erin put 20 vegetables on her tray. If $\frac{1}{4}$ of them were carrots, how many carrots were on Christina's and Erin's trays? Explain how you found your answer.

Possible work: $\frac{1}{5}$ of 15 is 3. $\frac{1}{4}$ of 20 is 5. 3 + 5 = 8, so there were a total of 8 carrots on both trays.

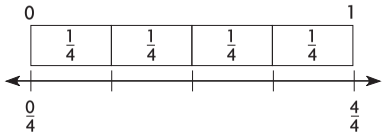
16. Maria has 8 tulip bulbs. She gives 5 of the tulip bulbs to her neighbor. What fraction of her tulip bulbs does she give to her neighbor?

$\frac{5}{8}$

GO ON

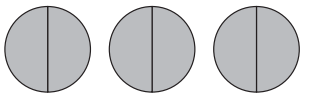
Name _____

17. Lucy rode her bike around the block 4 times for a total of 1 mile yesterday. Today she wants to ride her bike $\frac{3}{4}$ of a mile. How many times will she need to ride her bike around the block?



3 times

18. Jackson colored some shapes.



Select one number from each column to show a fraction greater than 1 that names the parts Jackson colored.

Numerator	Denominator
○ 1	○ 1
○ 2	● 2
○ 3	○ 3
● 6	○ 6

19. Samira ran around a park loop that was $\frac{1}{3}$ mile long. She ran around the loop 9 times. Samira says she ran $\frac{9}{3}$ miles. Her brother Amal says she ran 3 miles. Who is correct? Use words and drawings to explain how you know.

Possible drawing:

Both are correct. Possible explanation: The distance around the loop is $\frac{1}{3}$ mile, so if she ran around it 9 times, that is nine thirds or $\frac{9}{3}$. I drew a circle, divided it in thirds and shaded $\frac{3}{3}$. I then drew two more circles and shaded each the same to show $\frac{9}{3}$. My drawing shows that $\frac{9}{3}$ = 3, so both are correct.

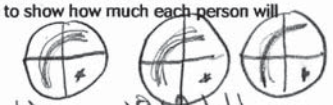
STOP

Name _____ **Chapter 8**

In the Kitchen

Rana and Yoshi are cooking food for a party. They need to cut up the food so people can share.

1. Yoshi makes 3 small pepperoni pizzas. There are 4 people who will share the pizzas. Draw a picture to show how much each person will get. Explain your answer.



You would divid them in 4 peices. everyone gets 3 slices when you split the peices into 4 equal groups.

2. Rana makes a large vegetable pizza. She cuts the pie into 8 equal parts. Three people each eat a slice of the pie.

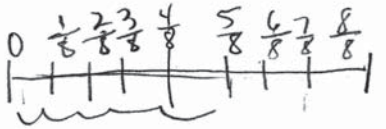
   a. Draw a picture to show the pie. Shade the missing parts.

   b. Write a fraction to show how much of the pie is left.

$\frac{5}{8}$

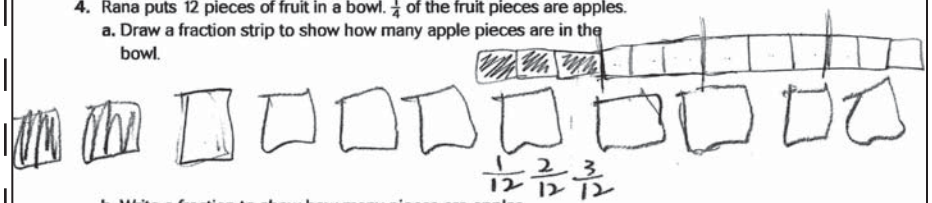
3. Yoshi makes a large sandwich. He cuts the sandwich into 8 equal parts. He wants to put $\frac{5}{8}$ of the sandwich on a plate. How many pieces of the sandwich does he need? Draw a number line to solve the problem. Then write your answer.

5 pieces



4. Rana puts 12 pieces of fruit in a bowl. $\frac{1}{4}$ of the fruit pieces are apples.

   a. Draw a fraction strip to show how many apple pieces are in the bowl.

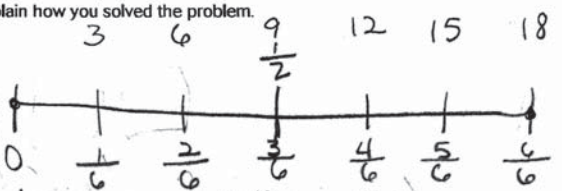


   b. Write a fraction to show how many pieces are apples.

$\frac{3}{12} = \frac{1}{4}$

5. Yoshi and Rana serve muffins. There are 3 muffins with nuts. $\frac{1}{6}$ of the muffins have nuts.

   a. How many muffins do they serve in all? Draw a number line to solve. Explain how you solved the problem.



I drew a number line. Each 1/6 is 3 muffins. All the muffins is 3 x 6 or 18 muffins.

   b. Write a fraction to show how many muffins do not have nuts.

$\frac{5}{6}$

15 muffins

Name _____ **Chapter 8**

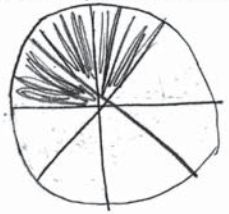
In the Kitchen

Rana and Yoshi are cooking food for a party. They need to cut up the food so people can share.

1. Yoshi makes 3 small pepperoni pizzas. There are 4 people who will share the pizzas. Draw a picture to show how much each person will get. Explain your answer.

each person will get 3 peice's of pizza. Because I drew 1 a picture and split the pizzas in 4.

2. Rana makes a large vegetable pizza. She cuts the pie into 8 equal parts. Three people each eat a slice of the pie.
   a. Draw a picture to show the pie. Shade the missing parts.



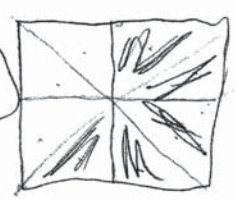
   b. Write a fraction to show how much of the pie is left.

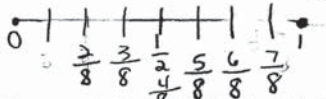
$\frac{5}{8}$ are left

3. Yoshi makes a large sandwich. He cuts the sandwich into 8 equal parts. He wants to put $\frac{5}{8}$ of the sandwich on a plate. How many pieces of the sandwich does he need? Draw a number line to solve the problem. Then write your answer.

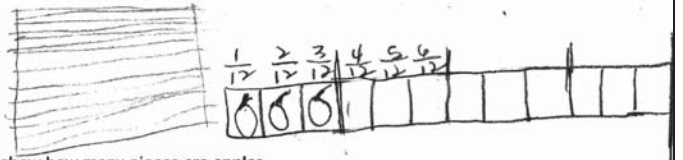
5 peices

$\frac{3}{8}$ are left





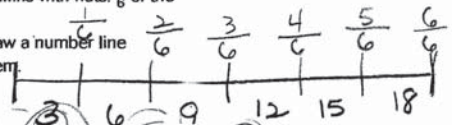
4. Rana puts 12 pieces of fruit in a bowl. $\frac{1}{4}$ of the fruit pieces are apples.
   a. Draw a fraction strip to show how many apple pieces are in the bowl.



   b. Write a fraction to show how many pieces are apples.

$\frac{3}{12}$

5. Yoshi and Rana serve muffins. There are 3 muffins with nuts. $\frac{1}{6}$ of the muffins have nuts.
   a. How many muffins do they serve in all? Draw a number line to solve. Explain how you solved the problem.



They Serve 15 muffins.

   b. Write a fraction to show how many muffins do not have nuts.

$\frac{15}{18}$

Name _____ **Chapter 8**

In the Kitchen

Rana and Yoshi are cooking food for a party. They need to cut up the food so people can share.

1. Yoshi makes 3 small pepperoni pizzas. There are 4 people who will share the pizzas. Draw a picture to show how much each person will get. Explain your answer.

everybody gets $\frac{1}{4}$ of each pizza

2. Rana makes a large vegetable pizza. She cuts the pie into 8 equal parts. Three people each eat a slice of the pie.

   a. Draw a picture to show the pie. Shade the missing parts.

   b. Write a fraction to show how much of the pie is left.

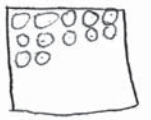
$\frac{3}{8}$

3. Yoshi makes a large sandwich. He cuts the sandwich into 8 equal parts. He wants to put $\frac{5}{8}$ of the sandwich on a plate. How many pieces of the sandwich does he need? Draw a number line to solve the problem. Then write your answer.

3

4. Rana puts 12 pieces of fruit in a bowl. $\frac{1}{4}$ of the fruit pieces are apples.

   a. Draw a fraction strip to show how many apple pieces are in the bowl.



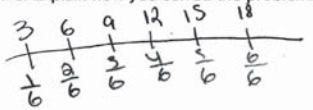
4 apples

   b. Write a fraction to show how many pieces are apples.

$\frac{1}{4}$

5. Yoshi and Rana serve muffins. There are 3 muffins with nuts. $\frac{1}{6}$ of the muffins have nuts.

   a. How many muffins do they serve in all? Draw a number line to solve. Explain how you solved the problem.



They serve 18 muffins

   b. Write a fraction to show how many muffins do not have nuts.

$\frac{3}{18}$

Name _____ **Chapter 8**

In the Kitchen

Rana and Yoshi are cooking food for a party. They need to cut up the food so people can share.

1. Yoshi makes 3 small pepperoni pizzas. There are 4 people who will share the pizzas. Draw a picture to show how much each person will get. Explain your answer.

each person will get $\frac{1}{3}$ of a piece of pizza because 3+1=4 people

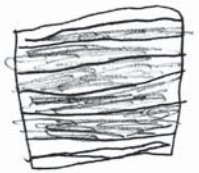
2. Rana makes a large vegetable pizza. She cuts the pie into 8 equal parts. Three people each eat a slice of the pie.

   a. Draw a picture to show the pie. Shade the missing parts.

   b. Write a fraction to show how much of the pie is left.

$\frac{5}{3}$

3. Yoshi makes a large sandwich. He cuts the sandwich into 8 equal parts. He wants to put $\frac{5}{8}$ of the sandwich on a plate. How many pieces of the sandwich does he need? Draw a number line to solve the problem. Then write your answer.



4. Rana puts 12 pieces of fruit in a bowl. $\frac{1}{4}$ of the fruit pieces are apples.

   a. Draw a fraction strip to show how many apple pieces are in the bowl.

   b. Write a fraction to show how many pieces are apples.

$\frac{1}{4}$

5. Yoshi and Rana serve muffins. There are 3 muffins with nuts. $\frac{1}{6}$ of the muffins have nuts.

   a. How many muffins do they serve in all? Draw a number line to solve. Explain how you solved the problem.

They serve 3 muffins.

   b. Write a fraction to show how many muffins do not have nuts.

$\frac{3}{18}$

Name _____ **Chapter 9 Test Page 1**

1. Frank and Dwayne weed their gardens that are the same size. Frank's garden is divided into 6 equal sections. Dwayne's garden is divided into 4 equal sections. Each boy has weeded 2 sections of his garden.

Write a fraction to describe what part of his garden each boy has weeded. Then tell who weeded a larger area. Explain.

Frank: $\frac{2}{6}$; Dwayne: $\frac{2}{4}$; Dwayne: $\frac{2}{4} > \frac{2}{6}$. Possible explanation: the denominators are different. The garden with the greater number of sections will have a smaller area per section.

2. Eli, Beth, and Cory are reading the same book for class. Eli read $\frac{3}{4}$ of his book. Beth read $\frac{3}{8}$ of her book and Cory read $\frac{3}{6}$ of his book.

For 2a–2d, choose Yes or No to indicate whether the comparisons are correct.

2a.	$\frac{3}{4} > \frac{3}{8}$	● Yes	○ No
2b.	$\frac{3}{6} < \frac{3}{8}$	○ Yes	● No
2c.	$\frac{3}{8} = \frac{3}{6}$	○ Yes	● No
2d.	$\frac{3}{6} < \frac{3}{4}$	● Yes	○ No

3. Mark and Lisa are on the swim team. Mark swims $\frac{3}{8}$ mile each day. Lisa swims $\frac{5}{8}$ mile each day. Which statement is correct? Mark all that apply.

Ⓐ Mark swims farther than Lisa each day.

Ⓑ Lisa swims the same distance as Mark each day.

● Lisa swims less than 1 mile each day.

● Lisa swims farther than Mark each day.

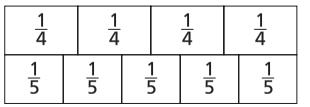
GO ON

Name _____ **Chapter 9 Test Page 2**

4. MacKenzie and Cassie used fabric to make costumes for a play. MacKenzie used $\frac{3}{4}$ yard of fabric and Cassie used $\frac{5}{6}$ yard. Who used more fabric? Explain the strategy you used to solve the problem.

Cassie; Possible explanation: I used the missing pieces strategy. Cassie's measurement is missing $\frac{1}{6}$ and MacKenzie's measurement is missing $\frac{1}{4}$. $\frac{1}{4} > \frac{1}{6}$, so MacKenzie had the larger missing piece and Cassie used more fabric.

5. The soccer team practices passing for $\frac{3}{4}$ hour and shooting for $\frac{4}{5}$ hour. On which drill does the team spend less time? Explain how you can use the model to find the answer.



Passing; the model for $\frac{3}{4}$ is shorter than the model for $\frac{4}{5}$.

6. Andrew bought $\frac{7}{8}$ pound of mixed nuts. Margaret bought $\frac{5}{8}$ pound of mixed nuts.

Use the fractions and symbols to show which amount is greater.

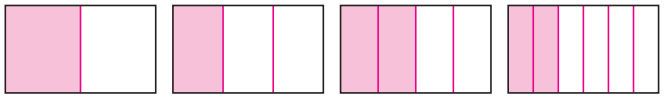
$\frac{5}{8}$ $\frac{7}{8}$ $<$ $>$

$\frac{5}{8} < \frac{7}{8}$ or $\frac{7}{8} > \frac{5}{8}$

GO ON

Name _____ Chapter 9 Test Page 3

7. Mr. Worth opened new jars of 4 different colors of paint for an art project. All of the jars were the same size.



Part A

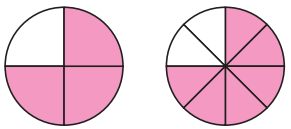
Draw lines to show how Mr. Worth could divide one jar of paint into halves, one into thirds, one into fourths, and one into sixths. **Possible lines are shown.**

Part B

Students in his class used an equivalent amount of two paint colors. Use the models to show the amount of paints used. Write two pairs of equivalent fractions to represent the models. **Possible shading is shown above.**

Possible answers: $\frac{1}{2} = \frac{2}{4}, \frac{1}{3} = \frac{2}{6}$

8. Dalton rode his skateboard for $\frac{3}{4}$ mile. Amelia rode her skateboard for an equal distance. What is an equivalent fraction that describes how far Amelia rode? Use the models to show your work.



$\frac{3}{4} = \frac{6}{8}$

9. Mr. Barrows opens 2 packs of paper. He puts $\frac{2}{5}$ of a pack in one pile and $\frac{3}{5}$ of a pack in another pile. Which pile has more paper? Show your work.

The pile with $\frac{3}{5}$ of a pack has more. Check students' work.

GO ON

Name _____ Chapter 9 Test Page 4

10. Treyvon watched $\frac{2}{8}$ a movie. Juan watched $\frac{2}{6}$ of the same movie. Use $>$, $=$, or $<$ to compare the parts that they watched.

$\frac{2}{8} < \frac{2}{6}$ **or** $\frac{2}{6} > \frac{2}{8}$

11. Alison used $\frac{7}{8}$ quart of orange juice and $\frac{3}{8}$ quart of cranberry juice to make some punch.

For 11a–11d, select True or False for each comparison.

11a.	$\frac{7}{8} < \frac{3}{8}$	○ True	● False
11b.	$\frac{7}{8} > \frac{3}{8}$	● True	○ False
11c.	$\frac{3}{8} < \frac{7}{8}$	● True	○ False
11d.	$\frac{3}{8} = \frac{7}{8}$	○ True	● False

12. Will, Ann, and Jim are working on their science fair projects. Will has finished $\frac{1}{4}$ of his project. Ann has finished $\frac{3}{4}$ of her project, and Jim has finished $\frac{2}{3}$ of his project.

Part A

Who has finished less of their project, Will or Ann? Explain how you know.

Will; Possible explanation: $\frac{1}{4}$ and $\frac{3}{4}$ have the same denominator, so I can compare numerators. 1 is less than 3, so $\frac{1}{4}$ is less than $\frac{3}{4}$.

Part B

Who has finished less of their project, Ann or Jim? Explain how you know.

Jim; Possible explanation: I can use the missing pieces strategy to compare the fractions. $\frac{2}{3}$ will have a larger missing piece than $\frac{3}{4}$, so $\frac{2}{3}$ is less than $\frac{3}{4}$

GO ON

Name _____ **Chapter 9 Test Page 5**

13. Sarah needs $\frac{4}{6}$ yard of ribbon to wrap a gift. She has 6 pieces of ribbon with the following lengths. She can cut the piece if it is too long. Mark all of the pieces of ribbon that Sarah could use.

- (A) $\frac{1}{2}$ yard
- ● $\frac{6}{6}$ yard
- (C) $\frac{3}{8}$ yard
- ● $\frac{4}{4}$ yard
- (E) $\frac{1}{3}$ yard
- ● $\frac{5}{6}$ yard

14. There are 8 people having breakfast. Each person wants $\frac{1}{2}$ of an omelet. How many whole omelets are needed? Use the models to show your answer.

Check students' drawings. Drawings should show 4 omelets divided into halves.

4 omelets

15. Michele mixed $\frac{3}{4}$ cup of flour with $\frac{1}{2}$ cup of water to make paste for an art project. Compare the fractions. Choose the symbol that makes the statement true.

$\frac{3}{4}$ [< = (>)] $\frac{1}{2}$

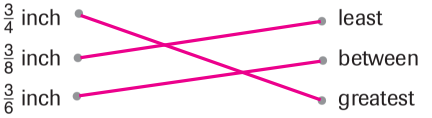
16. Jeff has three boxes that weigh $\frac{5}{8}$, $\frac{1}{8}$, and $\frac{3}{8}$ pound. Write the weights in order from least to greatest.

$\frac{1}{8}, \frac{3}{8}, \frac{5}{8}$

GO ON

Name _____ **Chapter 9 Test Page 6**

17. Ben measures the lengths of three insects. Draw a line to match each length on the left to the word on the right that describes its place in the order of lengths.



18. Kerri drew a model to show equivalent fractions.

Use the model to complete the number sentence.

$\frac{2}{3} = \frac{4}{6}$

19. Elaine brought $\frac{3}{4}$ pound of potato salad to a picnic. Jake brought $\frac{2}{3}$ pound of macaroni salad. Who brought more salad? Explain the strategy you used to solve the problem.

Elaine; Possible explanation: I think about the missing piece from $\frac{2}{3}$ which is $\frac{1}{3}$, and the missing piece from $\frac{3}{4}$ which is $\frac{1}{4}$. $\frac{1}{4} < \frac{1}{3}$, and the fraction with the smaller missing piece is larger.

20. It took Mike $\frac{2}{6}$ hour to clean his room.

What fraction is equivalent to $\frac{2}{6}$?

$\frac{1}{3} = \frac{2}{6}$

STOP

Name _____ **Chapter 9**

Making a Mural

Noreen and Hakim are in art class. They work with paper and ribbons to make shapes and designs for a mural. They use a large piece of paper to cover a wall for their mural.

1. Noreen paints $\frac{3}{6}$ of the mural yellow. Hakim paints $\frac{3}{8}$ of the mural green. Who paints a larger piece of the mural? Draw a model to compare the fractions. Then write a fraction sentence using > or <. Solve the problem.

Noreen $\frac{3}{6}$ > Hakim $\frac{3}{8}$

Noreen paints more of the mural.

2. Hakim stretches a green ribbon across $\frac{2}{6}$ of the mural. He stretches a blue ribbon across $\frac{5}{6}$ of the mural. Which ribbon is longer? Draw a fraction strip to compare the fractions. Then write a fraction sentence using > or <. Solve the problem.

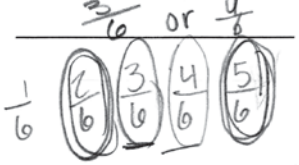
$\frac{5}{6}$ > $\frac{2}{6}$

blue green

The blue ribbon is longer,

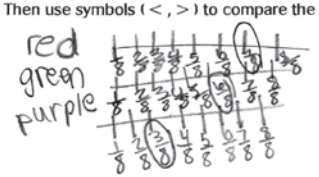
3. If Hakim added a red ribbon that is longer than the green ribbon, but shorter than the blue ribbon, then how much of the mural could the ribbon stretch across? Write a fraction. Show your work.

$\frac{3}{6}$ or $\frac{4}{6}$



4. Hakim pastes paper strips from the bottom of the mural to the top. A red paper strip reaches $\frac{7}{8}$ of the way to the top. A purple strip reaches $\frac{3}{8}$ of the way to the top. A green strip reaches $\frac{6}{8}$ of the way to the top. Put the paper strips in order from least to greatest. Draw number lines to compare. Write the colors and fractions in order. Then use symbols (< , >) to compare the fractions.

red
green
purple



$\frac{3}{8} < \frac{6}{8} < \frac{7}{8}$

purple < green < red

5. Noreen cuts out 3 paper circles to put on the mural. She divides one circle into fourths, one into sixths, and one into eighths. She wants to put glitter on some parts of the paper circles.

a. Draw circles to show Noreen's work.

b. Noreen puts the glitter on equivalent parts of all the circles. Shade the 3 circles to show equivalent parts. Then write two pairs of equivalent fractions.

$\frac{3}{6} = \frac{2}{4}$, $\frac{4}{8} = \frac{3}{6}$, $\frac{2}{4} = \frac{4}{8}$

Name _____ **Chapter 9**

Making a Mural

Noreen and Hakim are in art class. They work with paper and ribbons to make shapes and designs for a mural. They use a large piece of paper to cover a wall for their mural.

1. Noreen paints $\frac{3}{6}$ of the mural yellow. Hakim paints $\frac{3}{8}$ of the mural green. Who paints a larger piece of the mural? Draw a model to compare the fractions. Then write a fraction sentence using > or <. Solve the problem.

3/6 ⊃ 3/8

2. Hakim stretches a green ribbon across $\frac{2}{6}$ of the mural. He stretches a blue ribbon across $\frac{5}{6}$ of the mural. Which ribbon is longer? Draw a fraction strip to compare the fractions. Then write a fraction sentence using > or <. Solve the problem.

blue ribbon is longer

2/6 < 5/6

3. If Hakim added a red ribbon that is longer than the green ribbon, but shorter than the blue ribbon, then how much of the mural could the ribbon stretch across? Write a fraction. Show your work.

4/6

2/6 – 5/6

4. Hakim pastes paper strips from the bottom of the mural to the top. A red paper strip reaches $\frac{7}{8}$ of the way to the top. A purple strip reaches $\frac{3}{8}$ of the way to the top. A green strip reaches $\frac{6}{8}$ of the way to the top. Put the paper strips in order from least to greatest. Draw number lines to compare. Write the colors and fractions in order. Then use symbols (<, >) to compare the fractions.

3/8, 6/8, 7/8

3/8 < 6/8 < 7/8

purple 3/8 green 6/8
red 7/8

5. Noreen cuts out 3 paper circles to put on the mural. She divides one circle into fourths, one into sixths, and one into eighths. She wants to put glitter on some parts of the paper circles.

a. Draw circles to show Noreen's work.

b. Noreen puts the glitter on equivalent parts of all the circles. Shade the 3 circles to show equivalent parts. Then write two pairs of equivalent fractions.

2/4, 4/8 3/6, 6/12 4/8, 8/16

2/4 3/6 4/8
4/8 6/12 8/16

Name _____ **Chapter 9**

Making a Mural

Noreen and Hakim are in art class. They work with paper and ribbons to make shapes and designs for a mural. They use a large piece of paper to cover a wall for their mural.

1. Noreen paints $\frac{3}{6}$ of the mural yellow. Hakim paints $\frac{3}{8}$ of the mural green. Who paints a larger piece of the mural? Draw a model to compare the fractions. Then write a fraction sentence using > or <. Solve the problem.

$\frac{3}{6} = \frac{3}{8}$

2. Hakim stretches a green ribbon across $\frac{2}{6}$ of the mural. He stretches a blue ribbon across $\frac{5}{6}$ of the mural. Which ribbon is longer? Draw a fraction strip to compare the fractions. Then write a fraction sentence using > or <. Solve the problem.

$\frac{2}{6} < \frac{5}{6}$

3. If Hakim added a red ribbon that is longer than the green ribbon, but shorter than the blue ribbon, then how much of the mural could the ribbon stretch across? Write a fraction. Show your work.

_____

$\frac{2}{6}$ $\frac{5}{6}$

4. Hakim pastes paper strips from the bottom of the mural to the top. A red paper strip reaches $\frac{7}{8}$ of the way to the top. A purple strip reaches $\frac{3}{8}$ of the way to the top. A green strip reaches $\frac{6}{8}$ of the way to the top. Put the paper strips in order from least to greatest. Draw number lines to compare. Write the colors and fractions in order. Then use symbols (< , >) to compare the fractions.

Purple green red

$\frac{3}{8} < \frac{6}{8} < \frac{7}{8}$

5. Noreen cuts out 3 paper circles to put on the mural. She divides one circle into fourths, one into sixths, and one into eighths. She wants to put glitter on some parts of the paper circles.

   a. Draw circles to show Noreen's work.

   b. Noreen puts the glitter on equivalent parts of all the circles. Shade the 3 circles to show equivalent parts. Then write two pairs of equivalent fractions.

$\frac{2}{4}$ $\frac{3}{6}$ $\frac{2}{4}$

Name _____ **Chapter 9**

Making a Mural

Noreen and Hakim are in art class. They work with paper and ribbons to make shapes and designs for a mural. They use a large piece of paper to cover a wall for their mural.

1. Noreen paints $\frac{3}{6}$ of the mural yellow. Hakim paints $\frac{3}{8}$ of the mural green. Who paints a larger piece of the mural? Draw a model to compare the fractions. Then write a fraction sentence using > or <. Solve the problem.

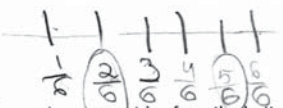
$\frac{3}{6} < \frac{3}{8}$

2. Hakim stretches a green ribbon across $\frac{2}{6}$ of the mural. He stretches a blue ribbon across $\frac{5}{6}$ of the mural. Which ribbon is longer? Draw a fraction strip to compare the fractions. Then write a fraction sentence using > or <. Solve the problem.

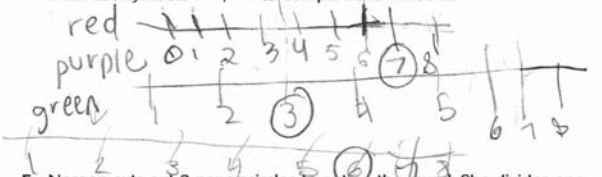
$\frac{5}{6} > \frac{2}{6}$

3. If Hakim added a red ribbon that is longer than the green ribbon, but shorter than the blue ribbon, then how much of the mural could the ribbon stretch across? Write a fraction. Show your work.

$\frac{3}{6}$



4. Hakim pastes paper strips from the bottom of the mural to the top. A red paper strip reaches $\frac{7}{8}$ of the way to the top. A purple strip reaches $\frac{3}{8}$ of the way to the top. A green strip reaches $\frac{6}{8}$ of the way to the top. Put the paper strips in order from least to greatest. Draw number lines to compare. Write the colors and fractions in order. Then use symbols (< , >) to compare the fractions.



5. Noreen cuts out 3 paper circles to put on the mural. She divides one circle into fourths, one into sixths, and one into eighths. She wants to put glitter on some parts of the paper circles.

   a. Draw circles to show Noreen's work.

   b. Noreen puts the glitter on equivalent parts of all the circles. Shade the 3 circles to show equivalent parts. Then write two pairs of equivalent fractions.

$\frac{3}{6}$

Name _____ CRITICAL AREA Fractions

A Barbeque

The community center is having a barbeque. Many people bring food and games to the barbeque. Use your knowledge of fractions to solve the problems.

1. Zach's family brings a large sandwich to the picnic. They cut the sandwich into 8 equal parts. Four people each take one piece of the sandwich.

   a. Draw a picture to show the sandwich. Shade the parts that were eaten.

   b. Write a fraction to show how much of the sandwich was eaten.

   4/8 = 1/2

   c. Draw another sandwich cut into 4 equal parts. Shade the sandwich to show an equivalent fraction to the sandwich Zach's family brought to the picnic.

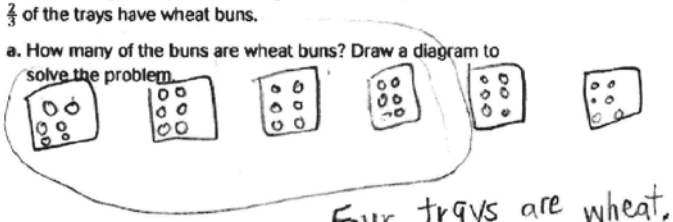
   

   d. Then write a pair of equivalent fractions for the sandwiches.

   4/8 = 2/4

2. Mrs. Lin brings 6 trays of hamburger buns to the picnic. $\frac{2}{3}$ of the trays have wheat buns.

   a. How many of the buns are wheat buns? Draw a diagram to solve the problem.

   Four trays are wheat.

   b. Write a pair of equivalent fractions for the diagram that you drew. Explain why the fractions are equivalent.

   2/3 4/6 The fractions are equivalent because it's equal to each other. I multiplied the top and bottom by 2.

3. Mr. Sanchez brings a tray of 6 granola bars to the barbeque. The bars are equal-size pieces. Four people share each of the bars equally.

   a. Explain how they could divide all the bars so each person gets the same amount. Draw pictures to show your thinking.

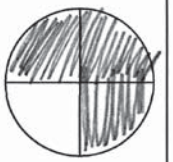
   Everyone gets 1 1/2 bar. Everyone starts with 1 and then they cut the remaining 2 in 1/2 so everyone gets a 1/2 too.

   b. Suppose the four people only eat 4 equal-size pieces of granola bars. Compare the number of granola bars that were eaten with the number of bars not eaten. Write a fraction sentence. Use >, <, or =.

   4/6 = 2/6

4. William and Cassie bring pies to the barbeque. They cut them into different parts and serve them.

   a. The table shows the parts of pie people ate. Shade each pie to show what was eaten. Then write the fraction.

three sixths	four eighths	three fourths
		
3/6	4/8	3/4

   b. Look at the pies you shaded. Which two show equivalent fractions? Write a pair of equivalent fractions.

   3/6 = 4/8

   c. Which two fractions have the same numerator? Compare the fractions. Write a sentence using > or <.

   3/6 < 3/4

   6/12 < 9/12

   d. Look at the fraction you drew for four-eighths. Write a fraction that is greater. Write a fraction that is less. Then write the fractions in order from least to greatest.

   5/8 greater 3/8 less

   3/8 < 4/8 < 5/8

5. Milos brings 12 hamburgers to the picnic. He puts cheese on 4 hamburgers.

   a. Draw to show the fraction. Write two equivalent fractions. Explain why they are equivalent fractions.

   2/6 4/12 8/24

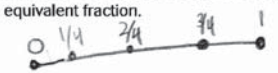
   They are equivalent because their double.

   b. Milos says that $\frac{4}{8}$ of the hamburgers have cheese. Explain why Milos is correct or incorrect.

   Milos is incorrect because half of the cheeseburgers is 6. and there was only 4 cheeseburgers that had cheese on it.

6. There is a track next to the barbeque area. The track is $\frac{1}{4}$ mile long. A group of students have a relay race. They run back and forth on the track 4 times.

   a. Draw a number line to show how many miles the students ran. Use 0 and 1 as points on your number line. Divide the number line into equal parts to solve the problem. Then write an equivalent fraction.

   4/4 = 1

   b. Suppose the students ran the track 8 more times. Write a fraction to show how many miles they ran.

   3 miles

   12/4 = 3

   They ran 3 miles.

1 mile long

Name _____ CRITICAL AREA Fractions

A Barbeque

The community center is having a barbeque. Many people bring food and games to the barbeque. Use your knowledge of fractions to solve the problems.

1. Zach's family brings a large sandwich to the picnic. They cut the sandwich into 8 equal parts. Four people each take one piece of the sandwich.

   a. Draw a picture to show the sandwich. Shade the parts that were eaten.

   b. Write a fraction to show how much of the sandwich was eaten.

   $\frac{4}{?}$

   c. Draw another sandwich cut into 4 equal parts. Shade the sandwich to show an equivalent fraction to the sandwich Zach's family brought to the picnic.

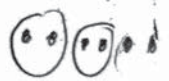
   d. Then write a pair of equivalent fractions for the sandwiches.

   $\frac{2}{4}$

2. Mrs. Lin brings 6 trays of hamburger buns to the picnic. $\frac{2}{3}$ of the trays have wheat buns.

   a. How many of the buns are wheat buns? Draw a diagram to solve the problem.

   Four trys wheat buns



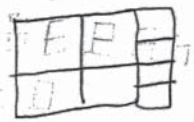
   b. Write a pair of equivalent fractions for the diagram that you drew. Explain why the fractions are equivalent.

   $\frac{2}{3}$ equals $\frac{2}{4}$

3. Mr. Sanchez brings a tray of 6 granola bars to the barbeque. The bars are equal-size pieces. Four people share each of the bars equally.

   a. Explain how they could divide all the bars so each person gets the same amount. Draw pictures to show your thinking.

   they could share 4 pieces. Then they could cut the remaining 2 pieces in halves to make 4 more pieces They can share the remaing 4 pieces

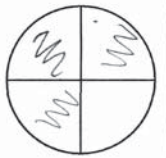


   b. Suppose the four people only eat 4 equal-size pieces of granola bars. Compare the number of granola bars that were eaten with the number of bars not eaten. Write a fraction sentence. Use >, <, or =.

   2/6 < 4/6

4. William and Cassie bring pies to the barbeque. They cut them into different parts and serve them.

   a. The table shows the parts of pie people ate. Shade each pie to show what was eaten. Then write the fraction.

three sixths	four eighths	three fourths
		
$\frac{3}{6}$	$\frac{4}{8}$	$\frac{3}{4}$

   b. Look at the pies you shaded. Which two show equivalent fractions? Write a pair of equivalent fractions.

   $\frac{3}{6} = \frac{4}{8}$

   c. Which two fractions have the same numerator? Compare the fractions. Write a sentence using > or <.

   3/6 < 3/4

   d. Look at the fraction you drew for four-eighths. Write a fraction that is greater. Write a fraction that is less. Then write the fractions in order from least to greatest.

   1/8, 4/8, 7/8

5. Milos brings 12 hamburgers to the picnic. He puts cheese on 4 hamburgers.

   a. Draw to show the fraction. Write two equivalent fractions. Explain why they are equivalent fractions.

   $\frac{4}{12} = \frac{2}{6}$. They are equivalent because they both can be divided by 2

   b. Milos says that $\frac{4}{8}$ of the hamburgers have cheese. Explain why Milos is correct or incorrect.

   He is incorrect because $\frac{4}{12}$ is not equivalent to $\frac{4}{8}$.

6. There is a track next to the barbeque area. The track is $\frac{1}{4}$ mile long. A group of students have a relay race. They run back and forth on the track 4 times.

   a. Draw a number line to show how many miles the students ran. Use 0 and 1 as points on your number line. Divide the number line into equal parts to solve the problem. Then write an equivalent fraction.

   0/4 1/4 2/4 3/4 4/4

   4/4 = 1 The students ran 1 mile

   b. Suppose the students ran the track 8 more times. Write a fraction to show how many miles they ran.

   12/4 They ran 3 miles

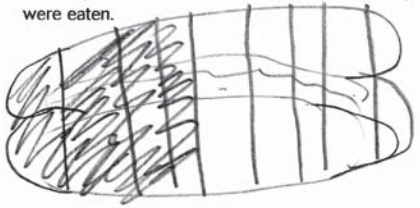
Name _____ CRITICAL AREA Fractions

A Barbeque

The community center is having a barbeque. Many people bring food and games to the barbeque. Use your knowledge of fractions to solve the problems.

1. Zach's family brings a large sandwich to the picnic. They cut the sandwich into 8 equal parts. Four people each take one piece of the sandwich.

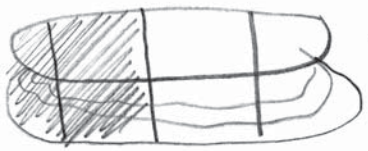
   a. Draw a picture to show the sandwich. Shade the parts that were eaten.



   b. Write a fraction to show how much of the sandwich was eaten.

   4/8

   c. Draw another sandwich cut into 4 equal parts. Shade the sandwich to show an equivalent fraction to the sandwich Zach's family brought to the picnic.



   d. Then write a pair of equivalent fractions for the sandwiches.

   4/8 = 2/4

2. Mrs. Lin brings 6 trays of hamburger buns to the picnic. 2/3 of the trays have wheat buns.

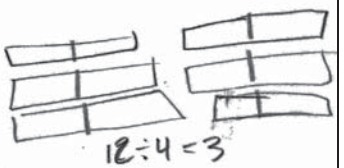
   a. How many of the buns are wheat buns? Draw a diagram to solve the problem.

4 trays are wheat buns.

   b. Write a pair of equivalent fractions for the diagram that you drew. Explain why the fractions are equivalent.

   2/3 and 4/6 because you multiply both the numerater and denomonater by 2

3. Mr. Sanchez brings a tray of 6 granola bars to the barbeque. The bars are equal-size pieces. Four people share each of the bars equally.



12 ÷ 4 = 3

   a. Explain how they could divide all the bars so each person gets the same amount. Draw pictures to show your thinking.

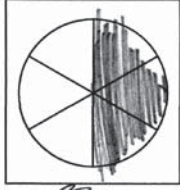
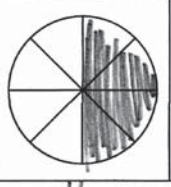
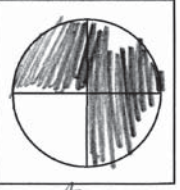
   you divide them into 1/2's and then that's 12 so 12 ÷ 4 people is 3 so they each get 3 1/2's

   b. Suppose the four people only eat 4 equal-size pieces of granola bars. Compare the number of granola bars that were eaten with the number of bars not eaten. Write a fraction sentence. Use >, <, or =.

   1/2 > 1/4

4. William and Cassie bring pies to the barbeque. They cut them into different parts and serve them.

   a. The table shows the parts of pie people ate. Shade each pie to show what was eaten. Then write the fraction.

three sixths	four eighths	three fourths
		
3/6	4/8	3/4

   b. Look at the pies you shaded. Which two show equivalent fractions? Write a pair of equivalent fractions.

   3/4 and 4/8

   c. Which two fractions have the same numerator? Compare the fractions. Write a sentence using > or <.

   3/6 < 3/4

   d. Look at the fraction you drew for four-eighths. Write a fraction that is greater. Write a fraction that is less. Then write the fractions in order from least to greatest.

   1/8 4/8 6/8

5. Milos brings 12 hamburgers to the picnic. He puts cheese on 4 hamburgers.

   a. Draw to show the fraction. Write two equivalent fractions. Explain why they are equivalent fractions.

   4/12 2/6 because you can divide 4 by 2 and 12 by 2

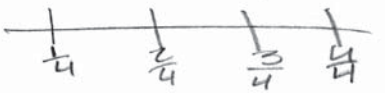
   b. Milos says that 4/8 of the hamburgers have cheese. Explain why Milos is correct or incorrect.

   he's incorrect because there's 12 burgers but he's saying there's only 8.

6. There is a track next to the barbeque area. The track is 1/4 mile long. A group of students have a relay race. They run back and forth on the track 4 times.

   a. Draw a number line to show how many miles the students ran. Use 0 and 1 as points on your number line. Divide the number line into equal parts to solve the problem. Then write an equivalent fraction.

   2/8

   b. Suppose the students ran the track 8 more times. Write a fraction to show how many miles they ran.

   2 miles

Name _____ CRITICAL AREA Fractions

A Barbeque

The community center is having a barbeque. Many people bring food and games to the barbeque. Use *your knowledge of fractions to solve the problems.*

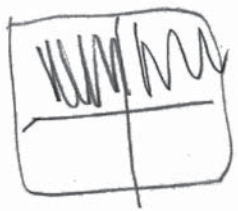
1. Zach's family brings a large sandwich to the picnic. They cut the sandwich into 8 equal parts. Four people each take one piece of the sandwich.

   a. Draw a picture to show the sandwich. Shade the parts that were eaten.

   b. Write a fraction to show how much of the sandwich was eaten.

   4/8

   c. Draw another sandwich cut into 4 equal parts. Shade the sandwich to show an equivalent fraction to the sandwich Zach's family brought to the picnic.

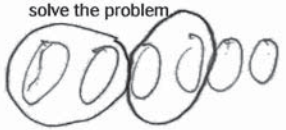


   d. Then write a pair of equivalent fractions for the sandwiches.

   2/4

2. Mrs. Lin brings 6 trays of hamburger buns to the picnic. $\frac{2}{3}$ of the trays have wheat buns.

   a. How many of the buns are wheat buns? Draw a diagram to solve the problem.



   b. Write a pair of equivalent fractions for the diagram that you drew. Explain why the fractions are equivalent.

   Because there are 2/3.

3. Mr. Sanchez brings a tray of 6 granola bars to the barbeque. The bars are equal-size pieces. Four people share each of the bars equally.

   a. Explain how they could divide all the bars so each person gets the same amount. Draw pictures to show your thinking.

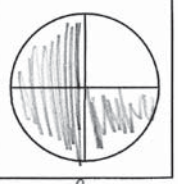
   You would share them in halves.

   b. Suppose the four people only eat 4 equal-size pieces of granola bars. Compare the number of granola bars that were eaten with the number of bars not eaten. Write a fraction sentence. Use >, <, or =.

   4 < 6

4. William and Cassie bring pies to the barbeque. They cut them into different parts and serve them.

   a. The table shows the parts of pie people ate. Shade each pie to show what was eaten. Then write the fraction.

three sixths	four eighths	three fourths
		
$\frac{3}{6}$	$\frac{4}{8}$	$\frac{3}{4}$

   b. Look at the pies you shaded. Which two show equivalent fractions? Write a pair of equivalent fractions.

   $\frac{3}{6}$ and $\frac{4}{8}$

   c. Which two fractions have the same numerator? Compare the fractions. Write a sentence using > or <.

   $\frac{3}{6}$ and $\frac{3}{4}$ they have the same numerator.

   d. Look at the fraction you drew for four-eighths. Write a fraction that is greater. Write a fraction that is less. Then write the fractions in order from least to greatest.

   $\frac{4}{6}$, $\frac{30}{60}$

5. Milos brings 12 hamburgers to the picnic. He puts cheese on 4 hamburgers.

   a. Draw to show the fraction. Write two equivalent fractions. Explain why they are equivalent fractions.

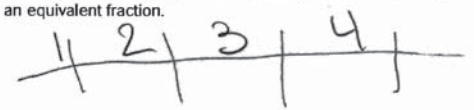
   $\frac{4}{12}$ $\frac{2}{6}$ they are equivalent because they both are even.

   b. Milos says that $\frac{4}{8}$ of the hamburgers have cheese. Explain why Milos is correct or incorrect.

   Milos is incorrect because he said $\frac{4}{12}$'s not $\frac{4}{8}$'s.

6. There is a track next to the barbeque area. The track is $\frac{1}{4}$ mile long. A group of students have a relay race. They run back and forth on the track 4 times.

   a. Draw a number line to show how many miles the students ran. Use 0 and 1 as points on your number line. Divide the number line into equal parts to solve the problem. Then write an equivalent fraction.

   b. Suppose the students ran the track 8 more times. Write a fraction to show how many miles they ran.

   $\frac{4}{8}$ 5

Name _____

Chapter 10 Test
Page 1

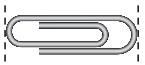
1. Chris left to take his dog for a walk at 6:25 P.M. He returned home after 26 minutes. He talked to his neighbor for 10 minutes before going back into his house.

   Write the time that Chris got home and the time he went back into the house. Explain how you found each time.

   He got back home at 6:51 P.M. and he went into the house at 7:01 P.M.
   Possible explanation: I used a number line to count forward and find the time he returned home. Then I counted forward 10 minutes to find the time he went in the house.

2. Kayla measured an object with an inch ruler. It was about 1 inch wide.

   For numbers 2a–2d, choose Yes or No to tell whether the object could be the one Kayla measured.

2a.		● Yes	○ No
2b.		● Yes	○ No
2c.		○ Yes	● No
2d.		○ Yes	● No

GO ON

Name _____

Chapter 10 Test
Page 2

3. Luz left for the park at 2:27 P.M. She arrived at 3:09 P.M. How long did it take Luz to get to the park?

   42 minutes

4. Terry wakes up for school at five minutes before seven in the morning. At what time does Terry wake up?

   Circle a time that makes the sentence true.

   Terry wakes up at
   - (6:55 A.M.)
   - 6:55 P.M.
   - 7:05 A.M.
   - 7:05 P.M.

5. Select the objects with a mass less than 1 kilogram. Mark all that apply.

   - (A) desk
   - ● eraser
   - ● eyeglasses
   - ● plastic fork

6. A batch of muffins needs to bake in the oven for 22 minutes. They need to cool for at least 15 minutes before they should be eaten. Wade puts the muffins in the oven at 10:17 A.M.

   For numbers 6a–6d, select True or False for each statement.

6a.	Wade can eat the muffins at 10:39 P.M.	● True	○ False
6b.	Wade can eat the muffins at 10:44 A.M.	○ True	● False
6c.	Wade should take the muffins out of the oven at 10:39 P.M.	○ True	● False
6d.	Wade should take the muffins out of the oven at 10:39 A.M.	● True	○ False

GO ON

Name _____

Chapter 10 Test
Page 3

7. Kirk went to a friend's house after dinner. He left his house at the time shown on the clock and returned home at 8:05 P.M.

Part A

How long was Kirk gone?

36 minutes

Part B

Explain how you found your answer.

Possible explanation: I counted 31 minutes from 7:29 to 8:00, 5 minutes from 8:00 to 8:05. Then I added those times: 31 minutes + 5 minutes = 36 minutes.

8. Brad looked at the clock on his way to the football game.

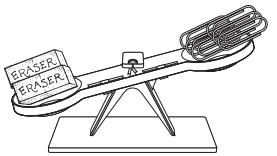
What time is shown on Brad's clock? Mark all that apply.

- ● thirteen minutes before ten
- Ⓒ quarter to ten
- ● nine forty-seven
- Ⓓ nine forty

9. Andrea uses a balance scale to compare mass.

Circle a symbol that makes the comparison true.

The mass of the erasers [< (>) =] the mass of the paper clips.



GO ON

Name _____

Chapter 10 Test
Page 4

10. A bucket of water holds about 19 liters.

For numbers 10a–10e, choose Yes or No to tell whether the container will hold all of the water.

10a.	bath tub	● Yes	○ No
10b.	large water bottle	○ Yes	● No
10c.	soup bowl	○ Yes	● No
10d.	large fish tank	● Yes	○ No
10e.	kitchen sink	● Yes	○ No

11. Select the animals that would be best measured in kilograms. Mark all that apply.

- ● dog
- Ⓑ mouse
- ● goat
- ● sheep

12. Luisa is planning her day on Saturday. Write the letter for each activity next to the time she plans to do it.

A	Wake up.	D	3:30 P.M.
B	Play soccer game.	E	8:30 P.M.
C	Eat lunch.	A	7:30 A.M.
D	Go to a movie.	C	12:30 P.M.
E	Go to bed.	B	9:00 A.M.

GO ON

Name _____ Chapter 10 Test Page 5

13. Stephen has 28 teaspoons of lemon juice. He uses 5 teaspoons of juice for each glass of lemonade he makes. He adds 2 teaspoons of juice to each glass of iced tea he makes.

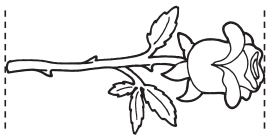
Stephen makes 4 glasses of lemonade. Does he have enough lemon juice to make 4 glasses of iced tea? Explain how you solved the problem.

Yes; Possible explanation: First, I found how much lemon juice he used, $4 \times 5 = 20$. Then I found how much lemon juice was left, $28 - 20 = 8$, and compared it to what he needed to make 4 glasses of iced tea, $4 \times 2 = 8$.

14. Use an inch ruler to measure.

Part A

What is the length of the flower to the nearest fourth-inch?



$2\frac{1}{4}$ inches

Part B

Explain how your answer would change if you measured the length of the flower to the nearest inch instead of fourth-inch.

Possible explanation: The measure would be 2 inches because the length is closest to the 2-inch mark on the ruler.

15. A football game begins at 11:32 A.M. The game lasts 3 hours 16 minutes. When does the game end?

2:48 P.M

16. Alicia buys two packets of flower seeds. She buys a total of 75 grams of seeds. Select the packets she buys.

25g	30g	35g	45g
Ⓐ	●	Ⓒ	●

GO ON

Name _____ Chapter 10 Test Page 6

17. Mr. Barton measures the screws on his workbench. He records the measurements in a chart.

Number of Screws	Length in Inches
1	$\frac{1}{2}$ inches
2	1 inches
2	$1\frac{1}{2}$ inches
1	$2\frac{1}{2}$ inches
1	3

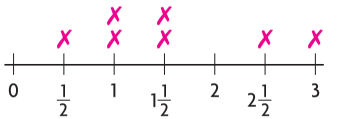
Part A

Mr. Barton found another screw. Use an inch ruler to measure. Record the measurement in the chart.

3 inches

Part B

Complete the line plot to show the data in the chart. How many screws are longer than 2 inches? Tell how you know.



Length of Screw Measured to the Nearest Half Inch

2 screws; Possible explanation: I counted the number of Xs above $2\frac{1}{2}$ and 3.

18. Abby fills a mug with hot cocoa. Is the amount of cocoa *more than 1 liter, about 1 liter,* or *less than 1 liter*? Explain how you know.

Less than 1 liter; Possible explanation: A liter is about the amount in a medium bottle of water. That amount would not fit in a mug, so the full mug has less than 1 liter.

STOP

Name _____ **Chapter 10**

Mario's Coffee Shop

Mario runs a small coffee shop. Every day he serves breakfast and lunch. It is important for Mario to know about time and measuring things.

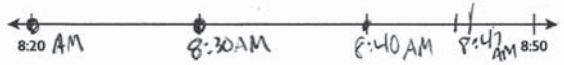
1. The clocks show the times that Mario opened his coffee shop, served lunches, and closed his coffee shop one day this week.
   a. Write the times using A.M. and P.M.

Morning	Lunch	Afternoon
 6:45 A.M.	 11:30 AM	 5:23 pm.

   b. Ms. Henley is meeting her son at the coffee shop at 12:00 for lunch. She arrives 20 minutes early. What time does Ms. Henley get to the coffee shop? Use A.M. or P.M. Explain how you know which one to use.

Ms. Henley meets her son at 11:40 A.m. I know because the shop closes at 5:23 p.m.

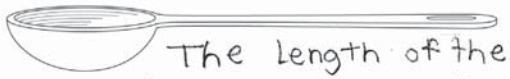
   c. Mario puts loaves of bread in the oven at 8:20 A.M. He takes the bread out at 8:47 A.M. Find how long it took for the bread to bake. Use the number line to solve the problem.



8:47
8:20
0:27

The bread bakes for 27 minutes.

2. Mario buys a rack to hold his measuring spoons. The rack holds spoons that are up to $4\frac{1}{2}$ inches long. Use a ruler to decide if this spoon will fit. Explain your answer.



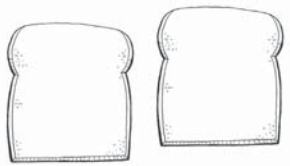
The length of the spoon is 4 $\frac{1}{4}$ inches. It will fit.

3. Mario uses this pitcher to serve juice. He serves this bread.

   a. How much juice will the pitcher hold when full?

5L

   b. What unit of measure can Mario use to measure the mass of the bread?



grams

4. Mario fills the pitcher above with juice 7 times during the day.
   a. How many liters of juice does Mario serve? Write an equation to solve.

5x7=35L. Mario serves 35L. of juice.

   b. Mario fills the pitcher above with juice. Then he pours all of the juice into 3 smaller pitchers. Each small pitcher does not need to hold the same amount of juice. How much juice could each of the smaller pitchers hold?

Mario would serve 2L in one, 2L in another, 1L in the last pitcher.

5. Mario has a sack with 298 grams of flour in it. He uses 139 grams to make pies. Write an equation to show how much flour is left.

Mario has 159 grams of flour left.

298-139=159

Name _____ Chapter 10

Mario's Coffee Shop

Mario runs a small coffee shop. Every day he serves breakfast and lunch. It is important for Mario to know about time and measuring things.

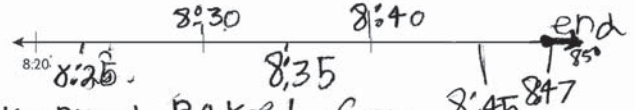
1. The clocks show the times that Mario opened his coffee shop, served lunches, and closed his coffee shop one day this week.
   a. Write the times using A.M. and P.M.

Morning	Lunch	Afternoon
 6:45 am	 11:30 am	 5:23. pm

   b. Ms. Henley is meeting her son at the coffee shop at 12:00 for lunch. She arrives 20 minutes early. What time does Ms. Henley get to the coffee shop? Use A.M. or P.M. Explain how you know which one to use.

11:00 am I know, because pm the shop is closed and am the shop is opened

   c. Mario puts loaves of bread in the oven at 8:20 A.M. He takes the bread out at 8:47 A.M. Find how long it took for the bread to bake. Use the number line to solve the problem.



the Bread Baked for 27 minuts

2. Mario buys a rack to hold his measuring spoons. The rack holds spoons that are up to $4\frac{1}{2}$ inches long. Use a ruler to decide if this spoon will fit. Explain your answer.

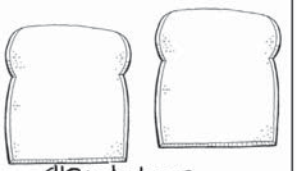
yes 4 inches 3 quarter

3. Mario uses this pitcher to serve juice. He serves this bread.

   a. How much juice will the pitcher hold when full?

5 L

   b. What unit of measure can Mario use to measure the mass of the bread?



grahms

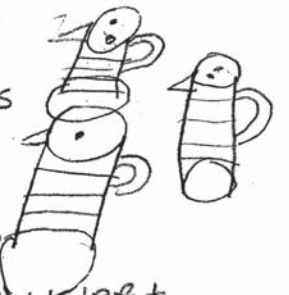
4. Mario fills the pitcher above with juice 7 times during the day.
   a. How many liters of juice does Mario serve? Write an equation to solve.

5 + 5 + 5 + 5 + 5 + 5 + 5 = 35

Therefore, 35 liters

   b. Mario fills the pitcher above with juice. Then he pours all of the juice into 3 smaller pitchers. Each small pitcher does not need to hold the same amount of juice. How much juice could each of the smaller pitchers hold?

Mario serves two pitchers with two liters & one with one liter.



5. Mario has a sack with 298 grams of flour in it. He uses 139 grams to make pies. Write an equation to show how much flour is left.

298 − 139 = 159 grahms of flour left.

18
298
-139
159

Name _____ Chapter 10

Mario's Coffee Shop

Mario runs a small coffee shop. Every day he serves breakfast and lunch. It is important for Mario to know about time and measuring things.

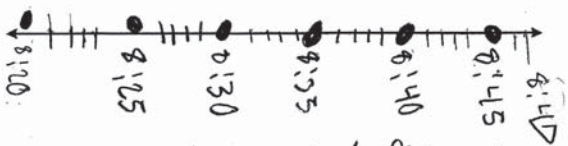
1. The clocks show the times that Mario opened his coffee shop, served lunches, and closed his coffee shop one day this week.
   a. Write the times using A.M. and P.M.

Morning	Lunch	Afternoon
 6:45 am	 11:30 am	 5:23 pm

   b. Ms. Henley is meeting her son at the coffee shop at 12:00 for lunch. She arrives 20 minutes early. What time does Ms. Henley get to the coffee shop? Use A.M. or P.M. Explain how you know which one to use.

Ms. Henly arrives at 11:30 a.m. Because Mario's Coffee shop opens at 6:45 am and closes 5:23 pm.

   c. Mario puts loaves of bread in the oven at 8:20 A.M. He takes the bread out at 8:47 A.M. Find how long it took for the bread to bake. Use the number line to solve the problem.



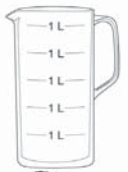
The bread baked for 25 minutes.

2. Mario buys a rack to hold his measuring spoons. The rack holds spoons that are up to $4\frac{1}{2}$ inches long. Use a ruler to decide if this spoon will fit. Explain your answer.

4 1/2 inches No.

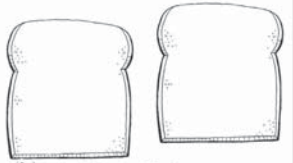
3. Mario uses this pitcher to serve juice. He serves this bread.

   a. How much juice will the pitcher hold when full?



5L

   b. What unit of measure can Mario use to measure the mass of the bread?



He can use ounces

4. Mario fills the pitcher above with juice 7 times during the day.
   a. How many liters of juice does Mario serve? Write an equation to solve.

Mario will fill the container with juice 7 times. He will serve 35L.

   b. Mario fills the pitcher above with juice. Then he pours all of the juice into 3 smaller pitchers. Each small pitcher does not need to hold the same amount of juice. How much juice could each of the smaller pitchers hold?

He might show them in gallons.

5. Mario has a sack with 298 grams of flour in it. He uses 139 grams to make pies. Write an equation to show how much flour is left.

There are 159 grams of flour left.

298
-139
159

Name _____ Chapter 10

Mario's Coffee Shop

Mario runs a small coffee shop. Every day he serves breakfast and lunch. It is important for Mario to know about time and measuring things.

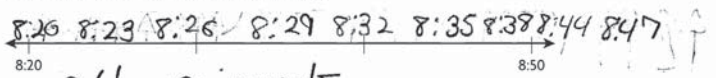
1. The clocks show the times that Mario opened his coffee shop, served lunches, and closed his coffee shop one day this week.
   a. Write the times using A.M. and P.M.

Morning	Lunch	Afternoon
 7:00 a.m.	 12:30 a.m.	 5:30 P.M.

   b. Ms. Henley is meeting her son at the coffee shop at 12:00 for lunch. She arrives 20 minutes early. What time does Ms. Henley get to the coffee shop? Use A.M. or P.M. Explain how you know which one to use.

A.M. because the coffe shop closes a 5:30 p.m so it must be A.M..

   c. Mario puts loaves of bread in the oven at 8:20 A.M. He takes the bread out at 8:47 A.M. Find how long it took for the bread to bake. Use the number line to solve the problem.



24 minuts

2. Mario buys a rack to hold his measuring spoons. The rack holds spoons that are up to $4\frac{1}{2}$ inches long. Use a ruler to decide if this spoon will fit. Explain your answer.

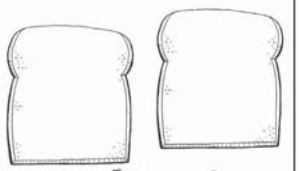
4 1/4

3. Mario uses this pitcher to serve juice. He serves this bread.

   a. How much juice will the pitcher hold when full?

5 Liters

   b. What unit of measure can Mario use to measure the mass of the bread?



2 ounces

4. Mario fills the pitcher above with juice 7 times during the day.
   a. How many liters of juice does Mario serve? Write an equation to solve.

45 liters

$$\begin{array}{r} 5 \\ \times\ 7 \\ \hline 45 \end{array}$$

   b. Mario fills the pitcher above with juice. Then he pours all of the juice into 3 smaller pitchers. Each small pitcher does not need to hold the same amount of juice. How much juice could each of the smaller pitchers hold?

He might get 5 cups but if it's to small get 6 cups

5. Mario has a sack with 298 grams of flour in it. He uses 139 grams to make pies. Write an equation to show how much flour is left.

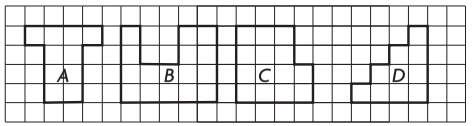
159 grams

$$\begin{array}{r} {}^{8}{}^{18} \\ 2\not{9}\not{8} \\ -\ 139 \\ \hline 159 \end{array}$$

Name _____

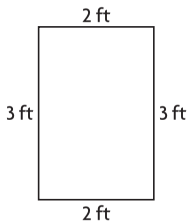
Chapter 11 Test
Page 1

1. Find the perimeter of each figure on the grid. Identify the figures that have a perimeter of 16 units. Mark all that apply.



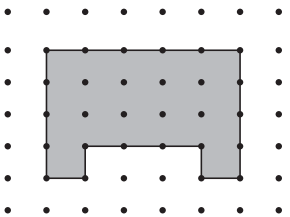
● Ⓑ ● ●

2. Mr. Howard is putting wood trim around his window. How many feet of wood trim does Mr. Howard need for the perimeter of the window?



10 feet

3. Greg drew this figure on dot paper. What is the area of the figure?



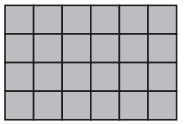
17 square units

GO ON

Name _____

Chapter 11 Test
Page 2

4. Brady is placing square tiles on the floor of the kitchen. Each unit square is 1 square foot.



Which equations can Brady use to find the area of the kitchen floor? Mark all that apply.

- ● $4 \times 6 = 24$
- Ⓑ $4 + 4 + 4 + 4 + 4 + 4 = 20$
- Ⓒ $4 + 6 + 4 + 6 = 20$
- ● $6 + 6 + 6 + 6 = 24$
- Ⓔ $4 \times 5 = 20$
- ● $6 \times 4 = 24$

5. Glenda used square tiles to make a rectangle. The rectangle has a perimeter of 8 units and an area of 4 square units. Which could be Glenda's rectangle?

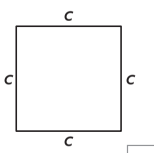
Ⓐ 

Ⓒ 

● 

Ⓓ 

6. Jill uses a ruler to draw a square. The perimeter of the square is 20 inches. Select a number to complete the sentence.



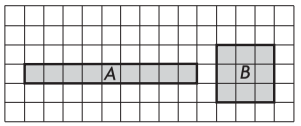
The square has a side length of [4 / (5) / 8 / 10] inches.

GO ON

Name _____

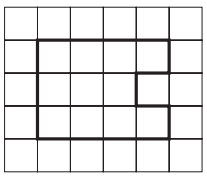
Chapter 11 Test
Page 3

7. Rosa drew two rectangles on grid paper. Circle the words that make the sentence true.



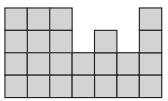
Rectangle *A* has an area that is [less than / **the same as** / greater than] the area of Rectangle *B*, and a perimeter that is [less than / the same as / **greater than**] the perimeter of Rectangle *B*.

8. Ryan drew this figure on grid paper. What is the perimeter of the figure?



16 units

9. What is the area of the figure shown? Each unit square is 1 square foot.



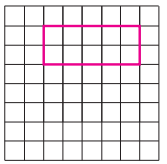
23 square feet

GO ON

Name _____

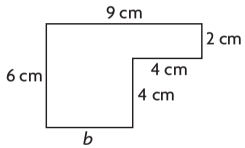
Chapter 11 Test
Page 4

10. Ella drew a rectangle that was 3 units wide and 4 units long. Draw a different rectangle that has the same perimeter but a different area.



Drawings may vary. Accept all rectangles with a perimeter of 14 units and an area that is not 12 square units. Possible drawing is shown.

11. Kendra glued ribbon around the outside border of the shape shown below. She used 30 centimeters of ribbon for the border. What is the unknown side length? Show your work. **Check students' work.**



5 centimeters

12. A carpenter made two tables. The first table is 4 feet wide and 10 feet long. The second table is half as long as the first table. The area of the second table is one fourth the area of the first table.

For numbers 12a–12d, select True or False.

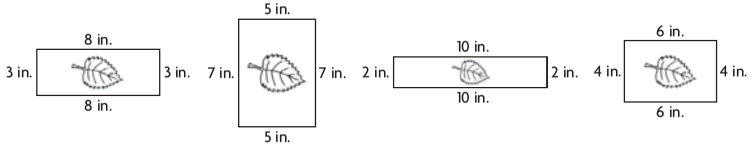
12a.	The width of the second table is 2 feet.	● True	○ False
12b.	The area of the second table is 10 square feet.	● True	○ False
12c.	The length of the second table is 8 feet.	○ True	● False
12d.	The area of the first table is 28 square feet.	○ True	● False

GO ON

Name _____

Chapter 11 Test
Page 5

13. Fiona bought some pictures. Each picture had a perimeter of 24 inches. Which could be one of the pictures Fiona bought? Mark all that apply.

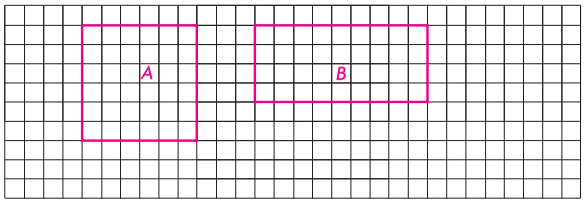


Ⓐ ● ● Ⓓ

14. Tasha wants to fence in two different rectangular pens for her chickens, each with an area of 36 square feet. She will buy fencing to build each pen.

Part A

Each unit square on the grid below is 1 square foot. Draw two possible pens. Label each with a letter.



Drawings will vary. Accept any 2 rectangles that have an area of 36 square feet each. Possible drawings are shown.

Part B

Which of the pens will take more fencing to make? Explain how you know.

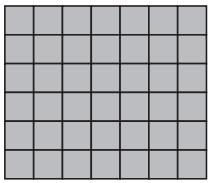
Perimeters will vary. Possible explanation: Pen *A* has a perimeter of 24 feet. Pen *B* has a perimeter of 26 feet. So, Pen *B* will take more fencing to make.

GO ON

Name _____

Chapter 11 Test
Page 6

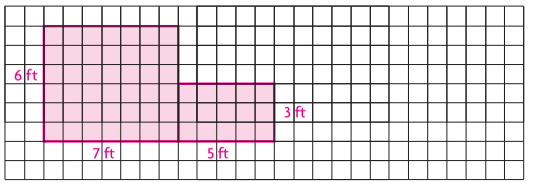
15. Simon draws a sketch of the floor of his tree house on grid paper. Each unit square is 1 square foot. Write and solve a multiplication equation that can be used to find the area of the floor in square feet.



6 × 7 = 42 or 7 × 6 = 42

42 square feet

16. Rachel uses grid paper to plan a mural to paint at her school. The design will be made of two connected rectangles. The larger rectangle will have an area between 35 square feet and 45 square feet. The smaller rectangle will have an area between 10 square feet and 20 square feet. Draw and label a diagram to show what Rachel could plan. Explain how to find the total area.
Designs will vary. Possible answers are shown.



I can find the area of each rectangle and then add to find the total area: 6 × 7 = 42; 3 × 5 = 15; 42 + 15 = 57 square feet.

STOP

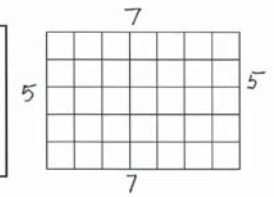
Name _____ **Chapter 11**

P = L + L + w + w
A = L • w

Summer at the Petting Zoo

Aisha helps out at a petting zoo over the summer. She makes some changes where the animals are kept. Solve the problems below using what you know about measurement.

1. Aisha builds a new pen to store feed. The diagram shows the shape of the pen. Each unit square is one square foot. Use the diagram to solve the problems.



D = 1 sq foot

a. How many feet of fencing does Aisha need to put around the pen? Write a number sentence to solve.

P + L + L + w + w
P = 7 + 7 + 5 + 5
14 + 10

7 + 7 = 14
5 + 5 = + 10

Aisha need's 24 feet of fencing.

b. How many square feet of tiles does Aisha need to put on the ceiling of the pen? Write a number sentence to solve.

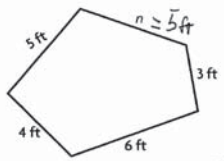
A = L • w
A = 7 • 5
A = 35 sq. ft.

Aisha needs 35 sq. ft for the ceiling.

2. Aisha builds this pen for the ducks. She needs 23 feet of fencing. What is the length of the unknown side? Show your work.

23 - 18 = n
n = 5 ft

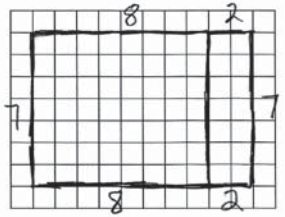
23 − 18 = 5



5 + 6 + 4 + 3 = 18
5 + 10 + 3
15 + 3
18

Aish need's to get 5 ft for the duck pen.

3. Aisha builds a tool shed that has side lengths of 10 feet and 7 feet. How many square feet of flooring does Aisha need? Draw a model on the grid paper. Then break apart the model and use the Distributive Property to solve. Show your work.

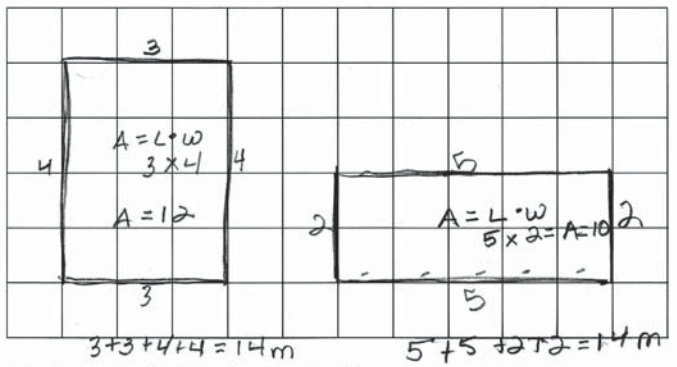


7(8 + 2)
7 • 8 + 7 • 2
56 + 14
A = 70 square ft.

1 56
14
70

4. Aisha wants to build a fence for the goat exhibit. She has 14 meters of fencing.

a. Draw two ways that Aisha could build the fence.



b. Are the areas of the fences the same? Explain.

No, one is 12 sq. m and the other is 10 sq. m. The measurements are different.

Sample Level 3 Response

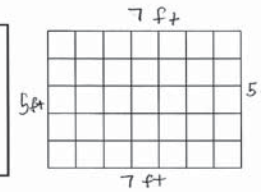
Name _____ **Chapter 11**

P = L + L + W + W
A = L • W

Summer at the Petting Zoo

Aisha helps out at a petting zoo over the summer. She makes some changes where the animals are kept. Solve the problems below using what you know about measurement.

1. Aisha builds a new pen to store feed. The diagram shows the shape of the pen. Each unit square is one square foot. Use the diagram to solve the problems.



□ = 1 sq foot

a. How many feet of fencing does Aisha need to put around the pen? Write a number sentence to solve. P = L + L + W + W

P = 7 + 7 + 5 + 5
14 + 10
24 ft

+7 14
+5 +10

Aisha needs 24 ft of fencing.

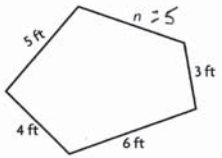
b. How many square feet of tiles does Aisha need to put on the ceiling of the pen? Write a number sentence to solve.

A = L • W
A = 7 • 5
A = 35 ft

Aisha needs 35 ft for the ceiling.

2. Aisha builds this pen for the ducks. She needs 23 feet of fencing. What is the length of the unknown side? Show your work.

23
−18
5 ft

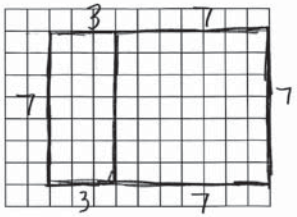


23 − 18 = n
n = 5 ft

5 + 4 + 6 + 3 = 18
5 + 10 + 3
15 + 3 = 18

Aisha needs to get (5 ft) for the duck pen

3. Aisha builds a tool shed that has side lengths of 10 feet and 7 feet. How many square feet of flooring does Aisha need? Draw a model on the grid paper. Then break apart the model and use the Distributive Property to solve. Show your work.

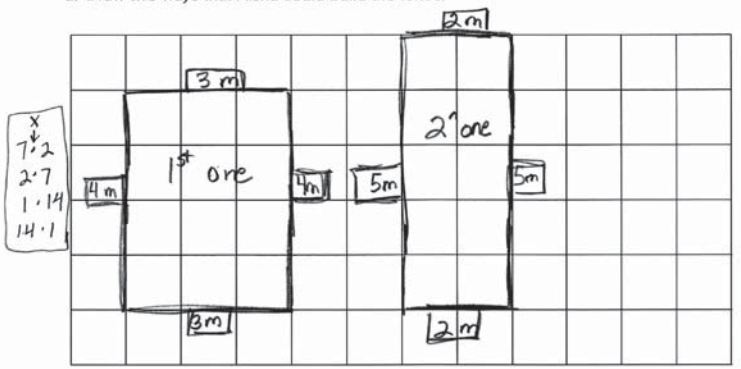


7(3 + 7)
7 • 3 + 7 • 7
21 + 49
70

21
+49
70

4. Aisha wants to build a fence for the goat exhibit. She has 14 meters of fencing.

a. Draw two ways that Aisha could build the fence.



x
7 • 2
2 • 7
1 • 14
14 • 1

b. Are the areas of the fences the same? Explain.

no. Because there are 12 on the 1st one and 10 on the 2nd one.

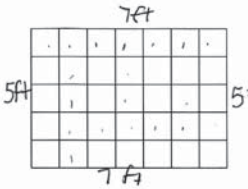
Name _____ Chapter 11

P = L + L + W + W
A = L • W

Summer at the Petting Zoo

Aisha helps out at a petting zoo over the summer. She makes some changes where the animals are kept. Solve the problems below using what you know about measurement.

1. Aisha builds a new pen to store feed. The diagram shows the shape of the pen. Each unit square is one square foot. Use the diagram to solve the problems.



□ = 1 sq foot

a. How many feet of fencing does Aisha need to put around the pen? Write a number sentence to solve.

P = L + L + W + W
P = 7 + 7 + 5 + 5
14 + 10 = 24

Aisha needs 24 ft. of fencing

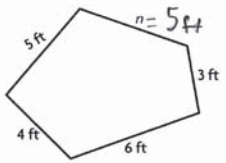
b. How many square feet of tiles does Aisha need to put on the ceiling of the pen? Write a number sentence to solve.

A = L • W
A = 7 • 5
A = 35

Aisha needs to add 35 ft. the ceiling.

2. Aisha builds this pen for the ducks. She needs 23 feet of fencing. What is the length of the unknown side? Show your work.

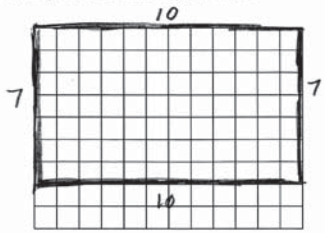
23 - 18 = n
n = 5



5 + 4 + 6 + 3 = 18
5 + 10 + 3
15 + 3 = 18

Aisha needs to get 5 ft for the duck pen

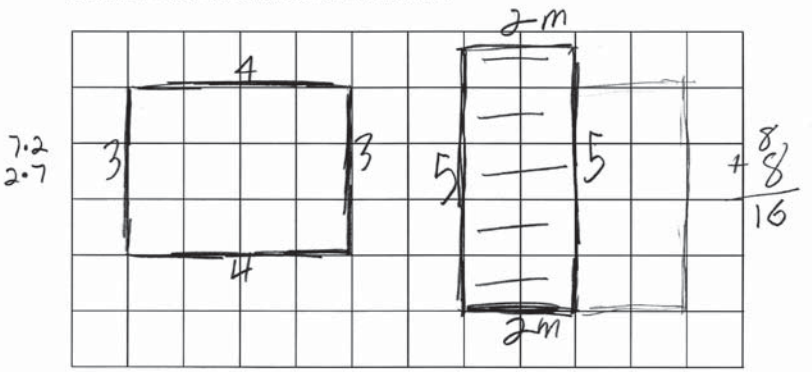
3. Aisha builds a tool shed that has side lengths of 10 feet and 7 feet. How many square feet of flooring does Aisha need? Draw a model on the grid paper. Then break apart the model and use the Distributive Property to solve. Show your work.



10 • 7 = 70

4. Aisha wants to build a fence for the goat exhibit. She has 14 meters of fencing.

a. Draw two ways that Aisha could build the fence.



7.2
2.7

8
+ 8
16

b. Are the areas of the fences the same? Explain.

NO. The numbers are not the same. They both have twevle in the middle but there's one by four and other by two's

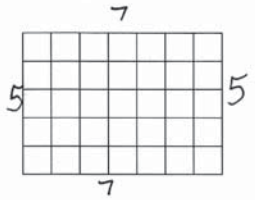
Name _____ **Chapter 11**

P = L + L + W + W
A = L • W

Summer at the Petting Zoo

Aisha helps out at a petting zoo over the summer. She makes some changes where the animals are kept. Solve the problems below using what you know about measurement.

1. Aisha builds a new pen to store feed. The diagram shows the shape of the pen. Each unit square is one square foot. Use the diagram to solve the problems.



■ = sq = foot

a. How many feet of fencing does Aisha need to put around the pen? Write a number sentence to solve.

P = L + L + W + W

Aisha needs 24 ft if fencing

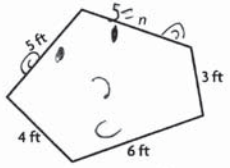
b. How many square feet of tiles does Aisha need to put on the ceiling of the pen? Write a number sentence to solve.

A = L • W
A = 7 • 5 =
A = 35 ~~sq ft~~

Aisha needs 35 feet the ceiling

P = 7 + 7 + 5 + 5
14 + 10

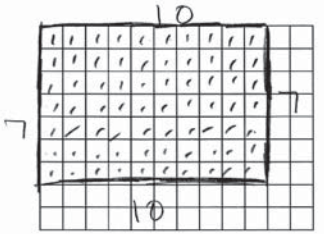
2. Aisha builds this pen for the ducks. She needs 23 feet of fencing. What is the length of the unknown side? Show your work.



23
− 18
5

11
+ 7
18

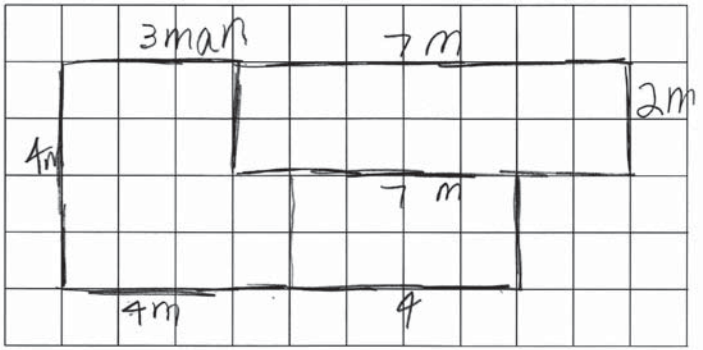
3. Aisha builds a tool shed that has side lengths of 10 feet and 7 feet. How many square feet of flooring does Aisha need? Draw a model on the grid paper. Then break apart the model and use the Distributive Property to solve. Show your work.



70

4. Aisha wants to build a fence for the goat exhibit. She has 14 meters of fencing.

a. Draw two ways that Aisha could build the fence.



b. Are the areas of the fences the same? Explain.

_____

_____

_____

_____

Name _____ CRITICAL AREA Measurement

At the Beach

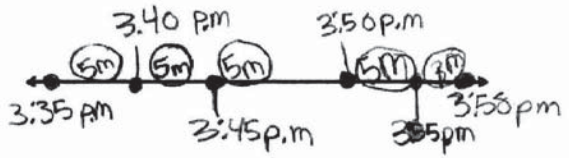
Solve the problems below using what you know about time, measurement, and geometric shapes.

1. Dasha's family goes to the beach. The clocks show the times the family drives in the morning, has lunch, and leaves the beach.

   a. Write the times using A.M. and P.M.

Morning	Lunch	Afternoon
 7:48a.M	 12:17p.m	 3:35p.m

   b. After leaving the beach, the family gets to the boardwalk at 3:58. How long did it take them to get there? Use a number line to solve.



They arrived 23 minutes after leaving the beach

2. While at the beach, Dasha uses this bucket to make sand castles. She fills the bucket 8 times with water.

   a. How many liters of water does she use? Write an equation to solve.

8 x 3L = 24L

Dasha used 24 Liters.

   b. Dasha fills 2 smaller pails with all of the water in one bucket. How much water might each small pail hold? Draw a picture. Label how much each pail holds. Each small pail does not need to hold the same amount of water.

She used 1 pail with 2 Liters of water and 1 pail with 1 Liter of water.

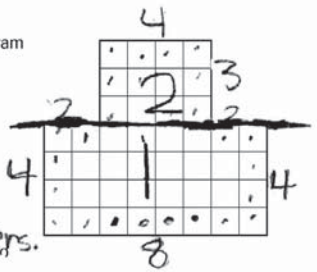
   c. Suppose Dasha has 217 grams of sand in the bucket and 146 grams of shells. What is the mass of the sand and the shells? Write an equation to solve.

217 + 146 = Total mass

$$\begin{array}{r} {\scriptstyle 1}\\ 217\\ +\,146\\ \hline 363 \end{array}$$

She has 363 grams of sand and shells.

3. The boardwalk at the beach has a new bandstand. The diagram shows the shape of the bandstand. Each unit square is one square meter. Use the diagram to solve the problems.



   a. What is the perimeter of the bandstand? Write a number sentence to solve.

3+4+3+8+2+4+8+4 =

P = 30 meters

The perimeter is 30 meters.

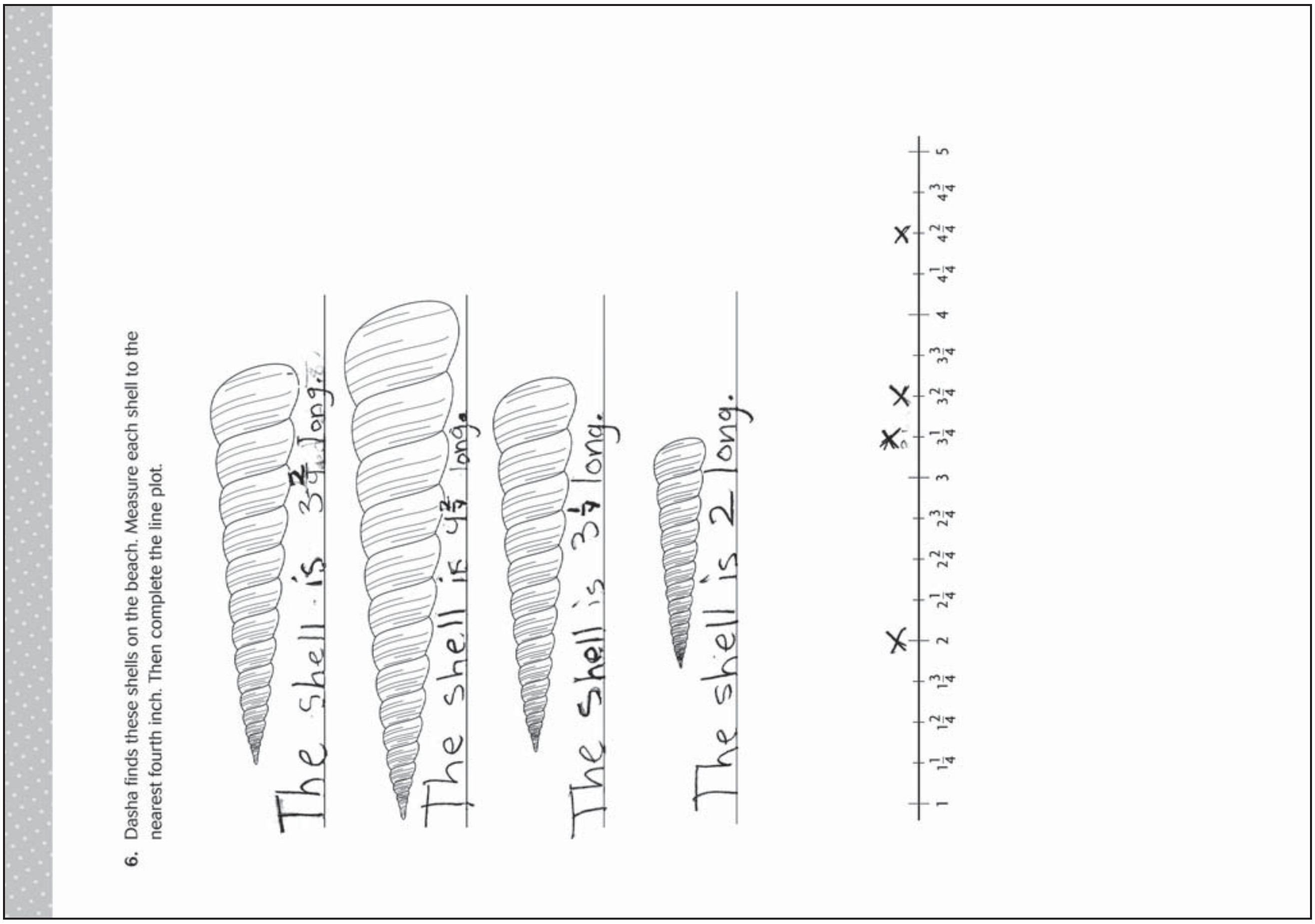
   b. Break apart the rectangles. Use the Distributive Property to find the area of the bandstand. Show your work.

1. 8 x 4 = 32
2. 4 x 3 = 12

32 + 12 = 44

The bandstand is 44 sq. meters.

Sample Level 3 Response



6. Dasha finds these shells on the beach. Measure each shell to the nearest fourth inch. Then complete the line plot.

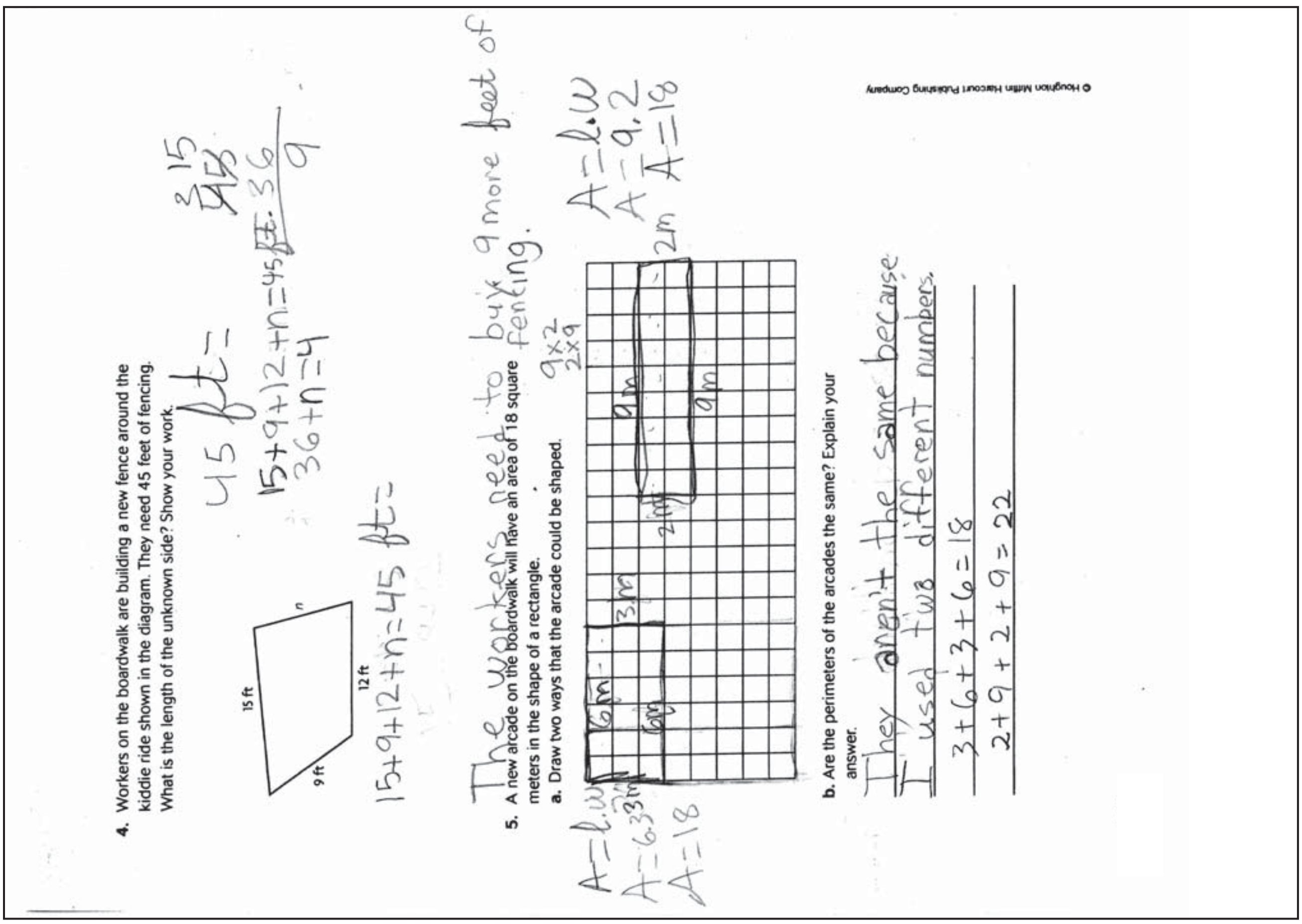
The shell is $3\frac{2}{4}$ long.

The shell is $4\frac{2}{4}$ long.

The shell is $3\frac{1}{4}$ long.

The shell is 2 long.

1 $1\frac{1}{4}$ $1\frac{2}{4}$ $1\frac{3}{4}$ 2 $2\frac{1}{4}$ $2\frac{2}{4}$ $2\frac{3}{4}$ 3 $3\frac{1}{4}$ $3\frac{2}{4}$ $3\frac{3}{4}$ 4 $4\frac{1}{4}$ $4\frac{2}{4}$ $4\frac{3}{4}$ 5



4. Workers on the boardwalk are building a new fence around the kiddie ride shown in the diagram. They need 45 feet of fencing. What is the length of the unknown side? Show your work.

15 ft, 9 ft, 12 ft, n

45 ft =

15+9+12+n=45 ft

36+n=45

n=9

15+9+12+n=45 ft=

5. A new arcade on the boardwalk will have an area of 18 square meters in the shape of a rectangle.

The workers need to buy 9 more feet of fencing.

a. Draw two ways that the arcade could be shaped.

A=l.w A=6.3 A=18

A=l.w A=9.2 A=18

b. Are the perimeters of the arcades the same? Explain your answer.

They aren't the same because I used two different numbers.

3+6+3+6=18

2+9+2+9=22

Name _____ **CRITICAL AREA** Measurement

At the Beach

Solve the problems below using what you know about time, measurement, and geometric shapes.

1. Dasha's family goes to the beach. The clocks show the times the family drives in the morning, has lunch, and leaves the beach.

   a. Write the times using A.M. and P.M.

Morning	Lunch	Afternoon
 7:48 a.m.	 12:17 p.m.	 3:35 p.m.

   b. After leaving the beach, the family gets to the boardwalk at 3:58. How long did it take them to get there? Use a number line to solve.

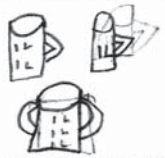
They arrived 23 minutes later.

2. While at the beach, Dasha uses this bucket to make sand castles. She fills the bucket 8 times with water.

   a. How many liters of water does she use? Write an equation to solve.

8L Dasha uses 24L
×3L of water
24L

   b. Dasha fills 2 smaller pails with all of the water in one bucket. How much water might each small pail hold? Draw a picture. Label how much each pail holds. Each small pail does not need to hold the same amount of water.



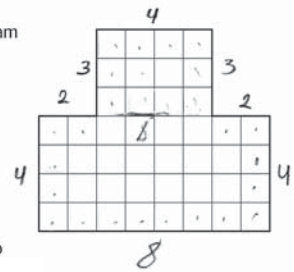
She used 1 pale with 2 L H2O and 1 pale with 1 L of H2O.

   c. Suppose Dasha has 217 grams of sand in the bucket and 146 grams of shells. What is the mass of the sand and the shells? Write an equation to solve.

Dasha has 363 grams of sand and shells.

217 grams
+146 grams
363 grams of sand and shells.

3. The boardwalk at the beach has a new bandstand. The diagram shows the shape of the bandstand. Each unit square is one square meter. Use the diagram to solve the problems.



   a. What is the perimeter of the bandstand? Write a number sentence to solve.

3+4+3+4+2+2+8
P = 10 + 16 = 26m

   b. Break apart the rectangles. Use the Distributive Property to find the area of the bandstand. Show your work.

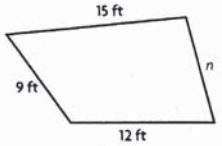
① 8 · 4 = 32 ② 4 · 3 = 12

32
+12
m = 44 = Area

4. Workers on the boardwalk are building a new fence around the kiddie ride shown in the diagram. They need 45 feet of fencing. What is the length of the unknown side? Show your work.

n = 9

45 ft =



15 + 9 + 12 + n = 45

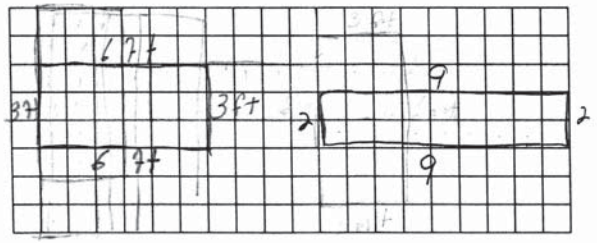
36 + n = 45

45 − 36 = 09

5. A new arcade on the boardwalk will have an area of 18 square meters in the shape of a rectangle.

9·2 3·6
2·9 1·3

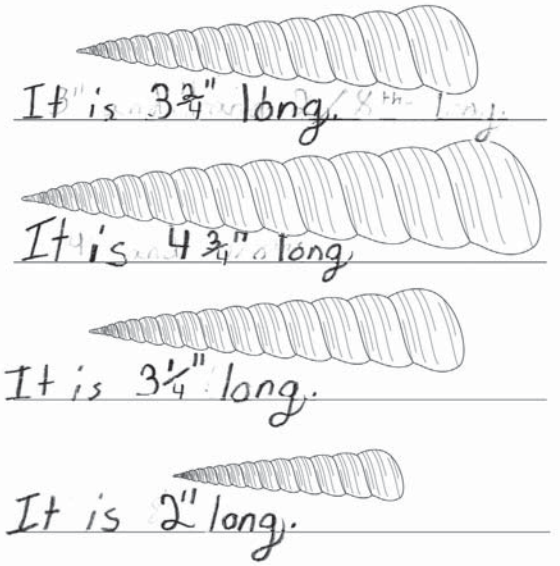
a. Draw two ways that the arcade could be shaped.



b. Are the perimeters of the arcades the same? Explain your answer.

No, because I used 3+6+3+6 = 18 and 2+9+2+9 = 22

6. Dasha finds these shells on the beach. Measure each shell to the nearest fourth inch. Then complete the line plot.



It is 3 2/4" long.

It is 4 3/4" long.

It is 3 1/4" long.

It is 2" long.

Name _____ CRITICAL AREA Measurement

At the Beach

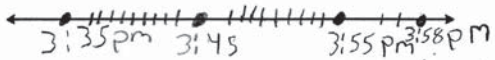
Solve the problems below using what you know about time, measurement, and geometric shapes.

1. Dasha's family goes to the beach. The clocks show the times the family drives in the morning, has lunch, and leaves the beach.

   a. Write the times using A.M. and P.M.

Morning	Lunch	Afternoon
 7:48 AM	 12:17 PM	 3:35 PM

   b. After leaving the beach, the family gets to the boardwalk at 3:58. How long did it take them to get there? Use a number line to solve.



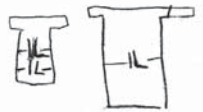
They arrived in 20 minutes.

2. While at the beach, Dasha uses this bucket to make sand castles. She fills the bucket 8 times with water.

   a. How many liters of water does she use? Write an equation to solve.

$8 \times 3 = 24$ L

   b. Dasha fills 2 smaller pails with all of the water in one bucket. How much water might each small pail hold? Draw a picture. Label how much each pail holds. Each small pail does not need to hold the same amount of water.

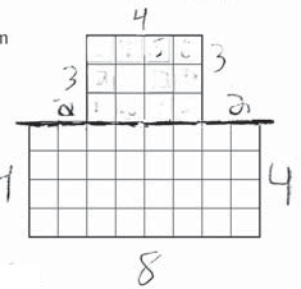


   c. Suppose Dasha has 217 grams of sand in the bucket and 146 grams of shells. What is the mass of the sand and the shells? Write an equation to solve.

$217 + 146$

She has 363 grams out of sea shells and sand in all

3. The boardwalk at the beach has a new bandstand. The diagram shows the shape of the bandstand. Each unit square is one square meter. Use the diagram to solve the problems.



   a. What is the perimeter of the bandstand? Write a number sentence to solve.

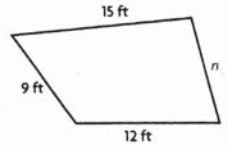
The ~~perimeter~~ is 30 meter

   b. Break apart the rectangles. Use the Distributive Property to find the area of the bandstand. Show your work.

#1 $8 \cdot 4 = 32$

#2 $4 \cdot 3 = 12$ $\quad 32 + 12 = 44$ m

4. Workers on the boardwalk are building a new fence around the kiddie ride shown in the diagram. They need 45 feet of fencing. What is the length of the unknown side? Show your work.

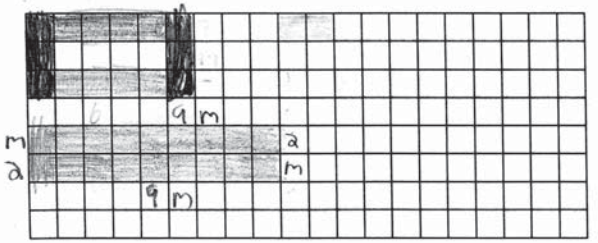


1
15
12
+9
+36

5. A new arcade on the boardwalk will have an area of 18 square meters in the shape of a rectangle.

9x2 2x9
3.6 6.3

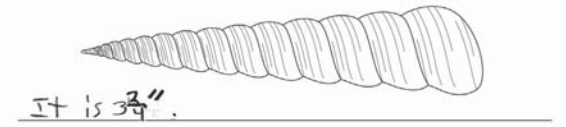
a. Draw two ways that the arcade could be shaped.



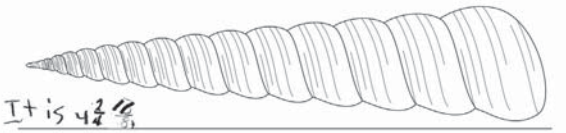
b. Are the perimeters of the arcades the same? Explain your answer.

No because I used different stuff

6. Dasha finds these shells on the beach. Measure each shell to the nearest fourth inch. Then complete the line plot.



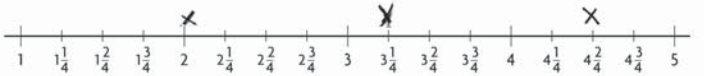
It is $3\frac{3}{4}$".



It is $4\frac{3}{4}$"

It is $3\frac{1}{4}$".

It is 2".



Name _____ CRITICAL AREA Measurement

At the Beach

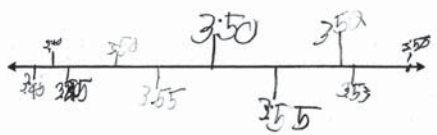
Solve the problems below using what you know about time, measurement, and geometric shapes.

1. Dasha's family goes to the beach. The clocks show the times the family drives in the morning, has lunch, and leaves the beach.

   a. Write the times using A.M. and P.M.

Morning	Lunch	Afternoon
 7:18 AM	 12:17 PM	 3:24 PM

   b. After leaving the beach, the family gets to the boardwalk at 3:58. How long did it take them to get there? Use a number line to solve.



They arave 30 minets later they go to the bourd wacke

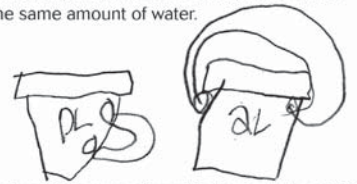
2. While at the beach, Dasha uses this bucket to make sand castles. She fills the bucket 8 times with water.

   a. How many liters of water does she use? Write an equation to solve.

3L

Dasha uses 3L of Water.

   b. Dasha fills 2 smaller pails with all of the water in one bucket. How much water might each small pail hold? Draw a picture. Label how much each pail holds. Each small pail does not need to hold the same amount of water.

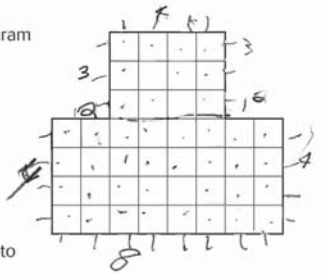


   c. Suppose Dasha has 217 grams of sand in the bucket and 146 grams of shells. What is the mass of the sand and the shells? Write an equation to solve.

217 + 146 = 363 grams of sand and shells.

3. The boardwalk at the beach has a new bandstand. The diagram shows the shape of the bandstand. Each unit square is one square meter. Use the diagram to solve the problems.

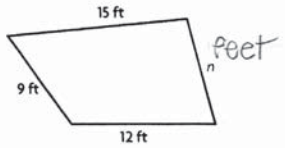
   a. What is the perimeter of the bandstand? Write a number sentence to solve.



   b. Break apart the rectangles. Use the Distributive Property to find the area of the bandstand. Show your work.

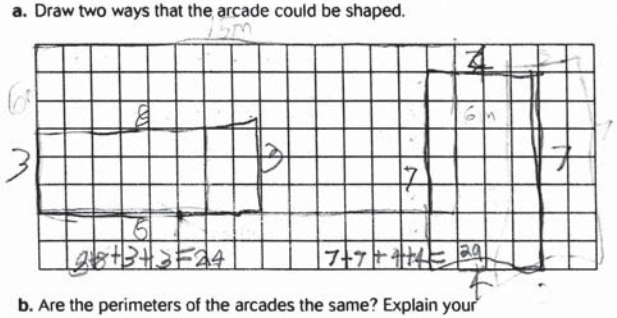
4 × 3 = 12

4. Workers on the boardwalk are building a new fence around the kiddie ride shown in the diagram. They need 45 feet of fencing. What is the length of the unknown side? Show your work.



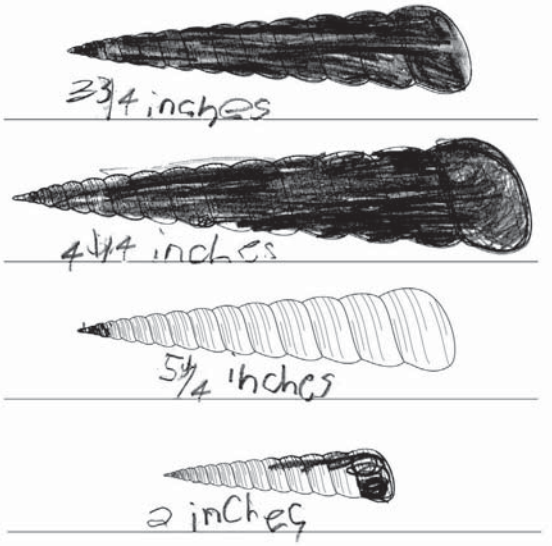
5. A new arcade on the boardwalk will have an area of 18 square meters in the shape of a rectangle.

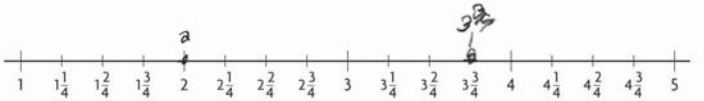
a. Draw two ways that the arcade could be shaped.



b. Are the perimeters of the arcades the same? Explain your answer.

6. Dasha finds these shells on the beach. Measure each shell to the nearest fourth inch. Then complete the line plot.



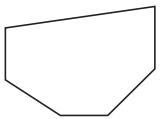


Name _____

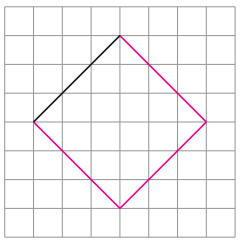
Chapter 12 Test
Page 1

1. Which words describe this shape? Mark all that apply.

- ● polygon
- ● hexagon
- Ⓒ open shape
- Ⓓ quadrilateral



2. Sam drew one side of a rhombus with at least 1 right angle. Draw the other 3 sides to complete Sam's shape.



3. Louie has a stamp with this shape.

For numbers 3a–3d, select True or False for each statement about the shape.

3a.	The shape has no right angles.	● True	○ False
3b.	The shape has 5 angles greater than a right angle.	● True	○ False
3c.	The shape has 2 angles less than a right angle.	○ True	● False
3d.	The shape has 1 right angle.	○ True	● False

GO ON

Name _____

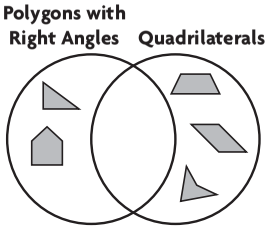
Chapter 12 Test
Page 2

4. Jane used a Venn diagram to sort shapes.

Part A

Draw a plane shape that belongs inside the overlap region of the diagram.

Possible answer shown. Students should draw a trapezoid with right angles, a square, or other rectangle.



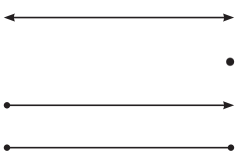
Part B

How can you describe the shapes that belong in the section where the circles overlap?

Possible answer: quadrilaterals with right angles.

5. Write one of the following words to name each part of the figure.

line | line segment | point | ray



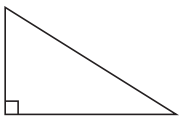
line

point

ray

line segment

6. Describe the angles and sides of this triangle.

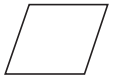


Possible answer: The triangle has one right angle and no sides of equal length.

GO ON

Name _____ Chapter 12 Test Page 3

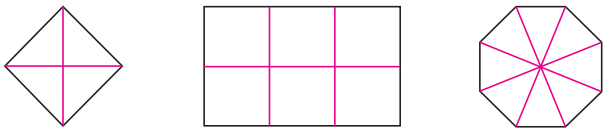
7. Which words describe this shape? Mark all that apply.



Ⓐ rectangle ● rhombus ● quadrilateral Ⓓ square

8. Divide each shape into the number of equal parts shown. Then write the fraction that describes each part of the whole.

4 equal parts **6 equal parts** **8 equal parts**



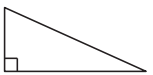
$\frac{1}{4}$ $\frac{1}{6}$ $\frac{1}{8}$

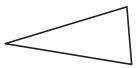
Possible divisions of the shapes are shown. Check students' work.

9. Cho drew a triangle with 3 angles that are each less than a right angle.

For numbers 9a–9d, choose Yes or No to tell whether that triangle could be the triangle Cho drew.

9a.  ● Yes ○ No

9b.  ○ Yes ● No

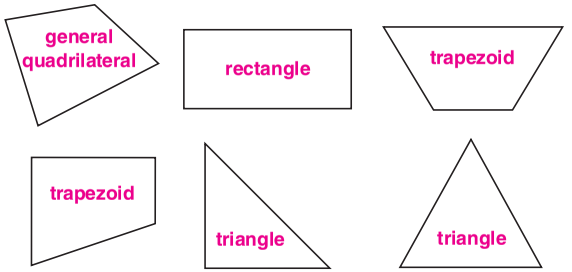
9c.  ● Yes ○ No

9d.  ● Yes ○ No

GO ON

Name _____ Chapter 12 Test Page 4

10. Look at this group of shapes.



Part A

Sort the shapes by sides. How many groups did you make? Explain how you sorted the shapes.

Possible answer: 2 groups; Possible explanation: I sorted the shapes by the number of sides. The general quadrilateral, rectangle, and 2 trapezoids have 4 sides. The 2 triangles have 3 sides.

Part B

Sort the shapes by angles. How many groups did you make? Explain how you sorted the shapes.

Possible answer: 2 groups; Possible explanation: I sorted the shapes by whether they had an angle greater than a right angle. The general quadrilateral and both trapezoids do have an angle greater than a right angle. The rectangle and 2 triangles do not.

11. Gina drew a quadrilateral that always has 4 sides of equal length and 4 right angles. What quadrilateral did she draw?

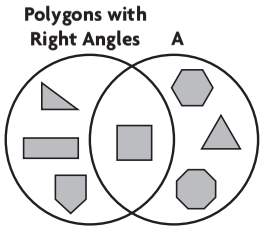
square

GO ON

Name _____

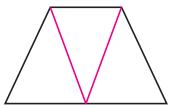
Chapter 12 Test
Page 5

12. Lacy used a Venn diagram to sort shapes. What label could she use for circle *A*?

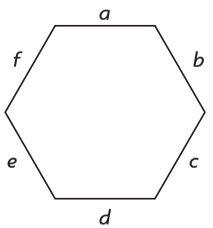


Possible answer: Polygons with All Sides of Equal Length

13. Victor drew lines to divide a trapezoid into equal parts that represent $\frac{1}{3}$ of the whole area. Draw lines to show how Victor divided the trapezoid. **Possible answer shown.**



14. Luisa drew this hexagon. Select the pairs of sides that appear to be parallel. Mark all that apply.



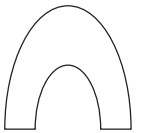
- (A) *a* and *b*
- ● *b* and *e*
- ● *c* and *f*
- ● *d* and *a*

GO ON

Name _____

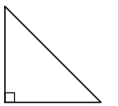
Chapter 12 Test
Page 6

15. Tell why this shape is NOT a polygon.



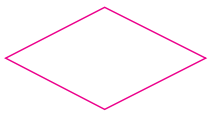
The shape has a curved path.

16. Paige drew the triangle at the right. What statements describe the angles? Mark all that apply.



- ● At least one is less than a right angle.
- ● One is a right angle.
- (C) All are less than a right angle.
- (D) One is greater than a right angle.

17. Bella drew a quadrilateral with 2 pairs of opposite sides that are parallel. The shape has no right angles and has sides that are of equal length. Draw a shape Bella could have drawn.



Possible answer shown. Students should draw a rhombus that is not a square.

18. For 18a–18d, select True or False for each description of a line segment.

18a.	straight	● True	○ False
18b.	has 2 endpoints	● True	○ False
18c.	continues in 1 direction	○ True	● False
18d.	part of a line	● True	○ False

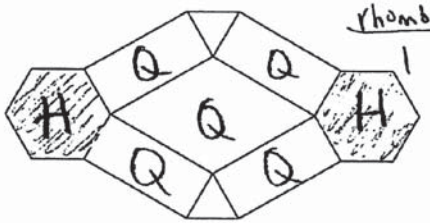
STOP

Name _____ Chapter 12

Stained Glass Art

Jamal is making stained glass art to hang in windows. He uses many different shapes in his art.

1. Jamal designs this shape. He cuts out the glass and glues the pieces together. Then he makes a chart to classify and count the pieces.



rhombus | triangle | rectangle | hexagon
1 | 2 | 4 | 2

a. Complete the chart to show the number of pieces that have each description.

Right Angles	Parallel Sides	Perpendicular Sides	Angles Less than a Right Angle
4	7	4	3

b. Put an H on the hexagons.

c. Put a Q on the quadrilaterals. Circle the names of the quadrilaterals you identified.

rectangle trapezoid rhombus square

d. ~~Will Jamal~~ Cut out any pentagons? Explain.

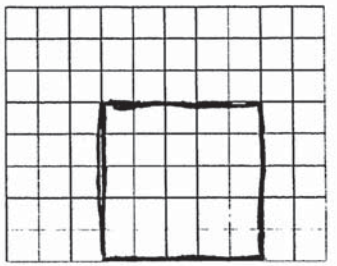
No, a pentagon has 5 sides and there are no shapes with 5 sides.

2. Jamal designs these quadrilaterals. Read the descriptions. Draw the quadrilateral on the grid.

a. The shape has two pairs of parallel sides. It has 4 right angles. It has 4 sides of equal length.

Name the quadrilateral.

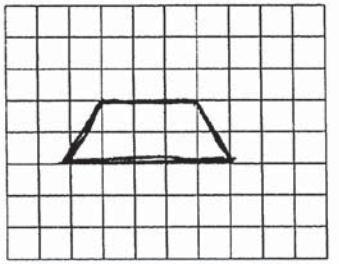
Square or trapezoid



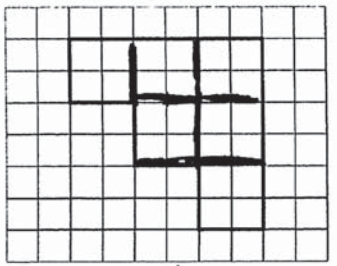
b. The shape has one pair of parallel sides. One of the parallel sides is longer than the other. It has no right angles.

Name the quadrilateral.

trapezoid



3. Jamal draws this shape. Divide the shape into parts with equal area. Write the area of one part as a fraction of the whole shape's area.



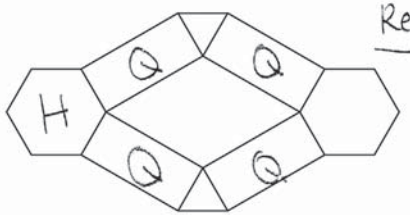
1/6

Name _____ Chapter 12

Stained Glass Art

Jamal is making stained glass art to hang in windows. He uses many different shapes in his art.

1. Jamal designs this shape. He cuts out the glass and glues the pieces together. Then he makes a chart to classify and count the pieces.



Rectangle	Hexagon	Triangle
4	2	2

a. Complete the chart to show the number of pieces that have each description.

Right Angles	Parallel Sides	Perpendicular Sides	Angles Less than a Right Angle
4	7	4	3

b. Put an H on the hexagons.

c. Put a Q on the quadrilaterals. Circle the names of the quadrilaterals you identified.

rectangle trapezoid rhombus square

d. Will Jamal cut out any pentagons? Explain.

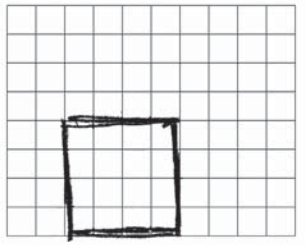
No, there are no pentagons because a pentagon looks like a house.

2. Jamal designs these quadrilaterals. Read the descriptions. Draw the quadrilateral on the grid.

a. The shape has two pairs of parallel sides. It has 4 right angles. It has 4 sides of equal length.

Name the quadrilateral.

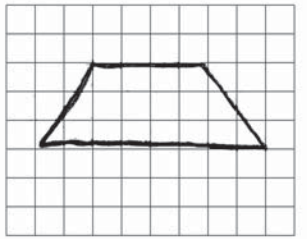
square



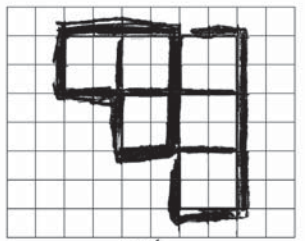
b. The shape has one pair of parallel sides. One of the parallel sides is longer than the other. It has no right angles.

Name the quadrilateral.

trapezoid



3. Jamal draws this shape. Divide the shape into parts with equal area. Write the area of one part as a fraction of the whole shape's area.



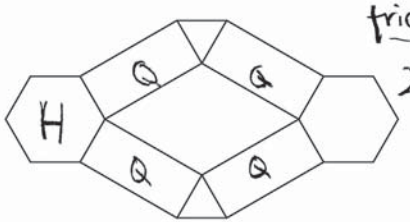
3/6

Name _____ Chapter 12

Stained Glass Art

Jamal is making stained glass art to hang in windows. He uses many different shapes in his art.

1. Jamal designs this shape. He cuts out the glass and glues the pieces together. Then he makes a chart to classify and count the pieces.



triangle 2 | rectangle 4 | hexagon 2

a. Complete the chart to show the number of pieces that have each description.

Right Angles	Parallel Sides	Perpendicular Sides	Angles Less than a Right Angle
4	5	0	2

b. Put an H on the hexagons.

c. Put a Q on the quadrilaterals. Circle the names of the quadrilaterals you identified.

rectangle trapezoid rhombus square

d. Will Jamal cut out any pentagons? Explain.

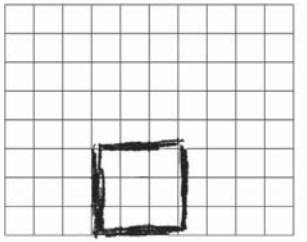
no, There are no pentagons because he dose not need any pentagons.

2. Jamal designs these quadrilaterals. Read the descriptions. Draw the quadrilateral on the grid.

a. The shape has two pairs of parallel sides. It has 4 right angles. It has 4 sides of equal length.

Name the quadrilateral.

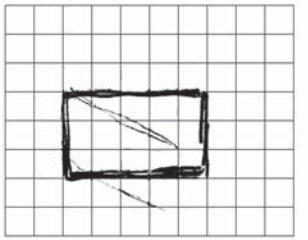
square



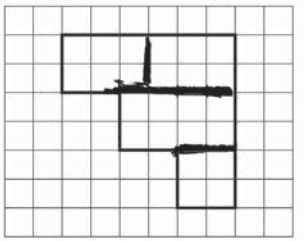
b. The shape has one pair of parallel sides. One of the parallel sides is longer than the other. It has no right angles.

Name the quadrilateral.

rectangle



3. Jamal draws this shape. Divide the shape into parts with equal area. Write the area of one part as a fraction of the whole shape's area.



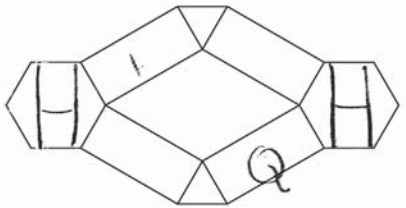
_____

Name _____ Chapter 12

Stained Glass Art

Jamal is making stained glass art to hang in windows. He uses many different shapes in his art.

1. Jamal designs this shape. He cuts out the glass and glues the pieces together. Then he makes a chart to classify and count the pieces.



a. Complete the chart to show the number of pieces that have each description.

Right Angles	Parallel Sides	Perpendicular Sides	Angles Less than a Right Angle
4	6	0	2

b. Put an H on the hexagons.

c. Put a Q on the quadrilaterals. Circle the names of the quadrilaterals you identified.

rectangle trapezoid rhombus square

d. Will Jamal cut out any pentagons? Explain.

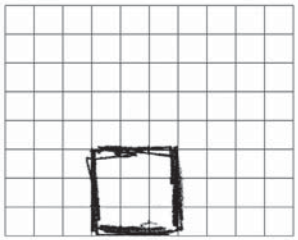
Ther are 2 pentagons.

2. Jamal designs these quadrilaterals. Read the descriptions. Draw the quadrilateral on the grid.

a. The shape has two pairs of parallel sides. It has 4 right angles. It has 4 sides of equal length.

Name the quadrilateral.

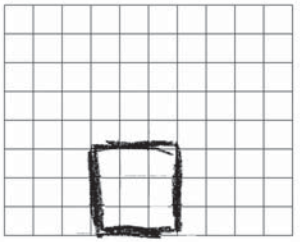
square



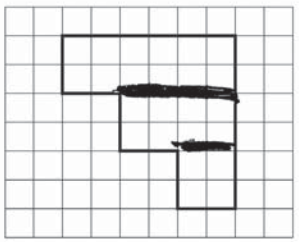
b. The shape has one pair of parallel sides. One of the parallel sides is longer than the other. It has no right angles.

Name the quadrilateral.

Square



3. Jamal draws this shape. Divide the shape into parts with equal area. Write the area of one part as a fraction of the whole shape's area.



3

Sample Level 0 Response

Name _____ CRITICAL AREA Geometry

Making Quilts

The third grade art class is making a quilt. Solve the problems below using what you know about geometric shapes.

1. Carly wants to make a block print for the quilt. She wants to draw a closed shape with 5 sides and two right angles. Draw the shape. Label the right angles. Name the shape.

a. How many angles in the shape are greater than a right angle? Two 2

b. How many angles in the shape are less than a right angle? one 1

c. How many pairs of perpendicular sides did you draw? Two 2

d. How many pairs of parallel sides did you draw? one 1

e. Did you draw any intersecting line segments? Explain.

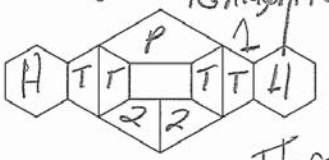
Yes, there are 5 intersecting line segments. They form 1 acute and 2 obtuse angle. and 2 right angles.

2. Carly wants to change the shape to make a hexagon. Explain how she can change the shape.

Carly can open up the pentagon and add another line segment. She will have her hexagon. and will have 6 line segments.

3. Darnell makes this block print for the quilt. Study the shapes of the pieces of his design.

Pentagon 1 | Hexagon 2 | Trapezoid 4 | Rectangle 1



(5)

a. How many shapes have right angles? Three 3

b. How many shapes have perpendicular sides? Three 3

c. Put a T on the trapezoids with only 1 pair of opposite sides parallel. Are the trapezoids also quadrilaterals? Explain.

Yes, because trapezoids has 4 sides just like a quadrilateral.

d. Put an H on the hexagons. Are the hexagons also quadrilaterals? Explain.

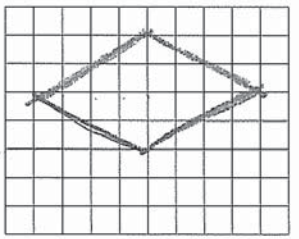
No, because a hexagon has 6 sides and 6 angles.

e. Classify the shapes. Complete the chart to show how many there are of each shape.

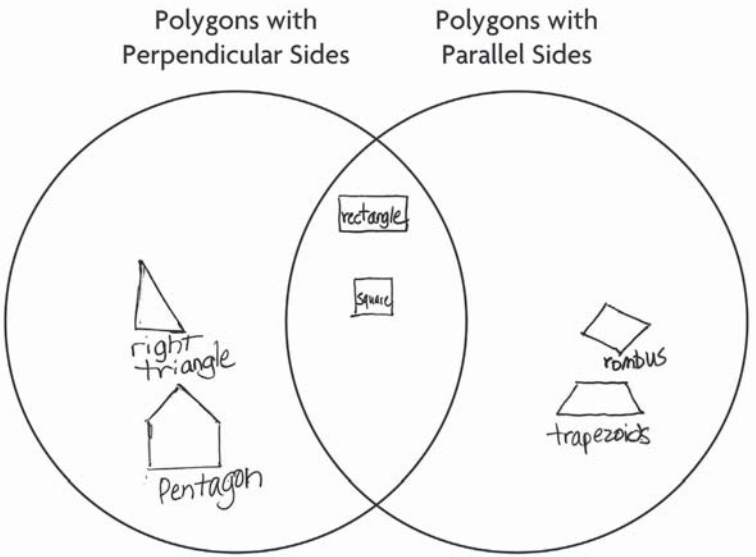
Triangles	Quadrilaterals	Rhombuses	Pentagons
0	7	0	1

4. Ricky makes a design for the quilt. The shape is a quadrilateral that is not a square. It has 4 sides that are of equal length. Draw the quadrilateral on the grid. Name the shape.

Rhombus

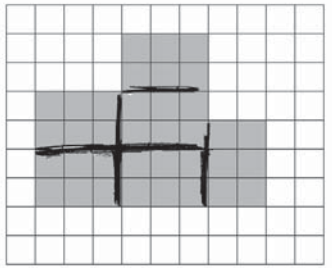


5. Draw six shapes to put on the quilt. Classify them using a Venn diagram. Draw two shapes in each part of the diagram.



6. The diagram below shows the parts of quilt that are completed.

a. Divide the shape into parts with equal area. Write the area of each part as a unit fraction.

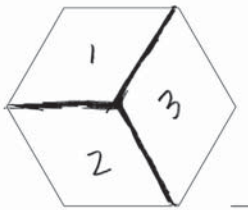


1/6

b. Suppose you wanted to find the area of the quilt that is complete. How can you use the parts to find the area? Explain.

I can multiply the number of blocks in each part by the 6 parts. So I multiplied 6x6 and that gave me 36. the quilt has an area of 36 square units.

7. Sara makes this hexagon. Draw to show how she can divide the shape into 3 rhombuses with equal area. Write the area of each part as a unit fraction.



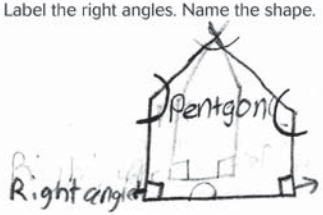
1/3

Name Craig 4th CRITICAL AREA Geometry

Making Quilts

The third grade art class is making a quilt. Solve the problems below using what you know about geometric shapes.

1. Carly wants to make a block print for the quilt. She wants to draw a closed shape with 5 sides and two right angles. Draw the shape. Label the right angles. Name the shape.



The shape Carly wants is a pentgon.

a. How many angles in the shape are greater than a right angle? 2

b. How many angles in the shape are less than a right angle? 1

c. How many pairs of perpendicular sides did you draw? Two 2

d. How many pairs of parallel sides did you draw? 1

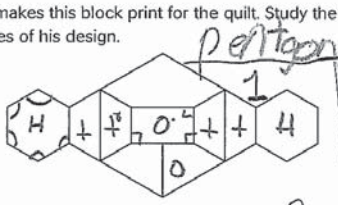
e. Did you draw any intersecting line segments? Explain.

Yes, I did because they meet and make ~~2 acute~~ angle and obtuse on the top of the pentagon

2. Carly wants to change the shape to make a hexagon. Explain how she can change the shape.

Carly can open the pentagon and add another line segment. She will have her hexagon!

3. Darnell makes this block print for the quilt. Study the shapes of the pieces of his design.



pentgon Hexagon Terzoid Rectangle

1 2 4

(5)

a. How many shapes have right angles? 3

b. How many shapes have perpendicular sides? 3

c. Put a T on the trapezoids with only 1 pair of opposite sides parallel. Are the trapezoids also quadrilaterals? Explain.

Yes, I knew that a trapezoid is because quad means 4 sides and a trapezoid has 4 sides.

d. Put an H on the hexagons. Are the hexagons also quadrilaterals? Explain.

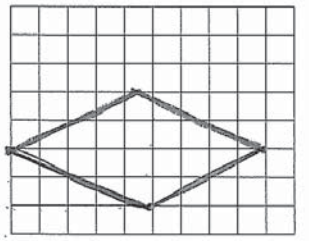
NO, hexagon not a quadrilatrals becuse it has more then four sides

e. Classify the shapes. Complete the chart to show how many there are of each shape.

Triangles	Quadrilaterals	Rhombuses	Pentagons
0		0	1

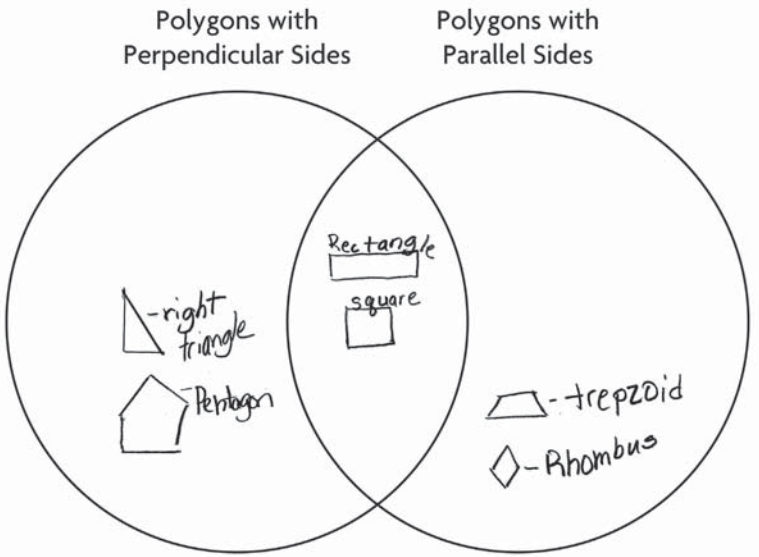
4. Ricky makes a design for the quilt. The shape is a quadrilateral that is not a square. It has 4 sides that are of equal length. Draw the quadrilateral on the grid. Name the shape.

Rhombus

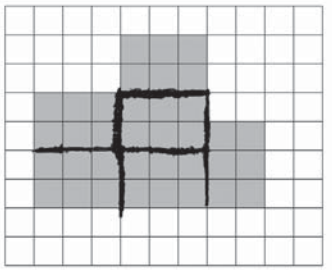


Sample Level 2 Response

5. Draw six shapes to put on the quilt. Classify them using a Venn diagram. Draw two shapes in each part of the diagram.



6. The diagram below shows the parts of quilt that are completed.
   a. Divide the shape into parts with equal area. Write the area of each part as a unit fraction.

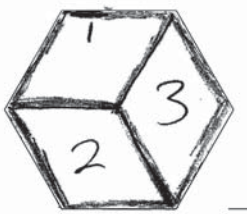


1/6

   b. Suppose you wanted to find the area of the quilt that is complete. How can you use the parts to find the area? Explain.

I Multiplied 6x6 to find my product 36 to find the area. of the quilt.

7. Sara makes this hexagon. Draw to show how she can divide the shape into 3 rhombuses with equal area. Write the area of each part as a unit fraction.



1/3

Name _____ CRITICAL AREA Geometry

Making Quilts

The third grade art class is making a quilt. Solve the problems below using what you know about geometric shapes.

1. Carly wants to make a block print for the quilt. She wants to draw a closed shape with 5 sides and two right angles. Draw the shape. Label the right angles. Name the shape.

The shape Carly wants is a pentagon.

a. How many angles in the shape are greater than a right angle? 2

b. How many angles in the shape are less than a right angle? 1

c. How many pairs of perpendicular sides did you draw? 2

d. How many pairs of parallel sides did you draw? 1

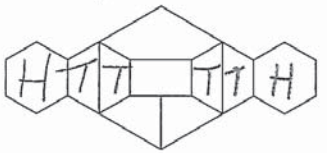
e. Did you draw any intersecting line segments? Explain.

Yes.

2. Carly wants to change the shape to make a hexagon. Explain how she can change the shape.

Carly can add a triangle.

3. Darnell makes this block print for the quilt. Study the shapes of the pieces of his design.



a. How many shapes have right angles? 2

b. How many shapes have perpendicular sides? 2

c. Put a T on the trapezoids with only 1 pair of opposite sides parallel. Are the trapezoids also quadrilaterals? Explain.

Yes, Because a quadrilateral is a shape with four sides

d. Put an H on the hexagons. Are the hexagons also quadrilaterals? Explain.

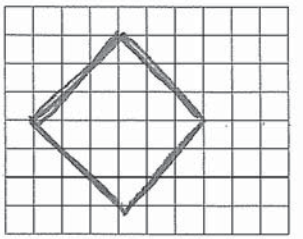
Yes hexagons are quadrilaterals because they have six sides.

e. Classify the shapes. Complete the chart to show how many there are of each shape.

Triangles	Quadrilaterals	Rhombuses	Pentagons
0	4	0	1

4. Ricky makes a design for the quilt. The shape is a quadrilateral that is not a square. It has 4 sides that are of equal length. Draw the quadrilateral on the grid. Name the shape.

Diamond



5. Draw six shapes to put on the quilt. Classify them using a Venn diagram. Draw two shapes in each part of the diagram.

6. The diagram below shows the parts of quilt that are completed.
   a. Divide the shape into parts with equal area. Write the area of each part as a unit fraction.

1/6

   b. Suppose you wanted to find the area of the quilt that is complete. How can you use the parts to find the area? Explain.

I multiplied.

7. Sara makes this hexagon. Draw to show how she can divide the shape into 3 rhombuses with equal area. Write the area of each part as a unit fraction.

1/6

Name _____ CRITICAL AREA Geometry

Making Quilts

The third grade art class is making a quilt. Solve the problems below using what you know about geometric shapes.

1. Carly wants to make a block print for the quilt. She wants to draw a closed shape with 5 sides and two right angles. Draw the shape. Label the right angles. Name the shape.

The Shape Carly wants is a Square and triangle.

a. How many angles in the shape are greater than a right angle? _____

b. How many angles in the shape are less than a right angle? _____

c. How many pairs of perpendicular sides did you draw? _____

d. How many pairs of parallel sides did you draw? _____

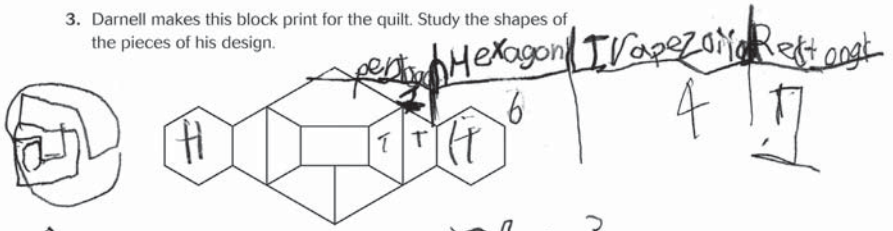
e. Did you draw any intersecting line segments? Explain

Yes, the rays making a line

2. Carly wants to change the shape to make a hexagon. Explain how she can change the shape.

Carly can add to the shape

3. Darnell makes this block print for the quilt. Study the shapes of the pieces of his design.



a. How many shapes have right angles? Three 3

b. How many shapes have perpendicular sides? _____

c. Put a T on the trapezoids. Are the trapezoids also quadrilaterals? Explain.

Yes, There are 2 of them.

d. Put an H on the hexagons. Are the hexagons also quadrilaterals? Explain.

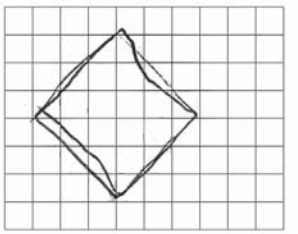
No, Hexagons have 6 sids.

e. Classify the shapes. Complete the chart to show how many there are of each shape.

Triangles	Quadrilaterals	Rhombuses	Pentagons
6	5	0	3

4. Ricky makes a design for the quilt. The shape is a quadrilateral that is not a square. It has 4 sides that are of equal length. Draw the quadrilateral on the grid. Name the shape.

a Kite



5. Draw six shapes to put on the quilt. Classify them using a Venn diagram. Draw two shapes in each part of the diagram.

6. The diagram below shows the parts of quilt that are completed.
   a. Divide the shape into parts with equal area. Write the area of each part as a unit fraction.

   b. Suppose you wanted to find the area of the quilt that is complete. How can you use the parts to find the area? Explain.

I Counted by the Squers all to gether

7. Sara makes this hexagon. Draw to show how she can divide the shape into 3 rhombuses with equal area. Write the area of each part as a unit fraction.

Name _____ **End of Year Test Page 1**

Choose the correct answer.

1. Clara looked at the clock on her way to band practice.

What time is shown on Clara's clock?

Ⓐ thirteen minutes before three
Ⓑ thirteen minutes after three
● thirteen minutes before four
Ⓓ forty-five minutes after three

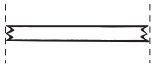
2. Omar started his math homework at 4:20 P.M. and finished his math homework at 4:44 P.M. For how long did Omar do his math homework?

Ⓐ 14 minutes Ⓒ 26 minutes
● 24 minutes Ⓓ 34 minutes

3. Mrs. Crocker fills a container with 17 liters of water. She then fills another container with 24 liters of water. What is the total liquid volume of water in both containers?

Ⓐ 7 liters Ⓒ 38 liters
Ⓑ 31 liters ● 41 liters

4. Travis uses an inch ruler to measure a ribbon.



What is the length of the ribbon to the nearest fourth inch?

Ⓐ $1\frac{1}{2}$ inches
● $1\frac{1}{4}$ inches
Ⓒ 1 inch
Ⓓ $\frac{1}{4}$ inch

5. The pep club sells water bottles during the school football games. The pep club sold 146 bottles during last Friday's game and 231 water bottles during this Friday's game. How many water bottles did the pep club sell altogether?

Ⓐ 277
Ⓑ 367
● 377
Ⓓ 387

GO ON

Name _____ **End of Year Test Page 2**

6. A movie theater recorded the number of people at the late night showing of three movies. The table shows how many people were at each movie.

Movie Attendance

Movie Title	Number of People
Super Heroes	116
Go Team!	183
Laugh City	205

Which is the **best** estimate of how many more people watched Laugh City than Super Heroes?

● 100 Ⓒ 300
Ⓑ 200 Ⓓ 400

7. Maria writes a number sentence that shows the Commutative Property of Addition. Which could be Maria's number sentence?

Ⓐ $(19 + 21) + 4 = 19 + (21 + 4)$
Ⓑ $0 + 27 = 27$
Ⓒ $58 = 50 + 8$
● $4 + 71 = 71 + 4$

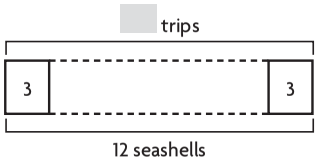
8. The Snack Shack had 145 bottles of apple juice. It sold 119 bottles of apple juice. How many bottles of apple juice are left?

Ⓐ 16 Ⓒ 36
● 26 Ⓓ 126

9. John pays $7 for some packs of pencils. Each pack of pencils costs $1. How many packs of pencils does John buy?

Ⓐ 0 ● 7
Ⓑ 1 Ⓓ 14

10. Todd has 12 seashells from his trips to the beach. He has 3 seashells from each of his trips. How many trips to the beach has Todd gone on?



● 4 Ⓒ 9
Ⓑ 8 Ⓓ 36

GO ON

Name _____ **End of Year Test Page 3**

11. Brad has 15 model cars. He places an equal number of model cars onto 3 shelves.

How many model cars are on each shelf?

Ⓐ 3
● 5
Ⓒ 6
Ⓓ 8

12. Hector writes a set of related facts. One of the facts he writes is $28 \div 4 = 7$. Which equation is included in the same set of related facts?

● $4 \times 7 = 28$
Ⓑ $2 \times 7 = 14$
Ⓒ $21 \div 7 = 3$
Ⓓ $32 \div 8 = 4$

13. Ming uses $\frac{3}{4}$ cup of peanuts and $\frac{1}{4}$ cup of raisins to make a snack. Which statement correctly compares the fractions?

Ⓐ $\frac{3}{4} = \frac{1}{4}$
Ⓑ $\frac{1}{4} > \frac{3}{4}$
Ⓒ $\frac{3}{4} < \frac{1}{4}$
● $\frac{3}{4} > \frac{1}{4}$

14. In a survey, $\frac{1}{2}$ of the students chose summer as their favorite season and $\frac{1}{8}$ chose winter. Which statement correctly compares the fractions?

Ⓐ $\frac{1}{2} = \frac{1}{8}$
Ⓑ $\frac{1}{2} < \frac{1}{8}$
● $\frac{1}{8} < \frac{1}{2}$
Ⓓ $\frac{1}{8} > \frac{1}{2}$

15. Tony makes a tile design with square tiles. He wants $\frac{4}{8}$ of the tiles to be red.

Which fraction is equivalent to $\frac{4}{8}$?

Ⓐ $\frac{1}{4}$
Ⓑ $\frac{1}{3}$
● $\frac{1}{2}$
Ⓓ $\frac{3}{4}$

GO ON

Name _____ **End of Year Test Page 4**

16. Mr. Corbin measures the lengths of three branches. The first branch is $\frac{2}{3}$ foot long. The second branch is $\frac{2}{2}$ foot long. The third branch is $\frac{2}{8}$ foot long. Which list orders the fractions from **greatest** to **least**?

Ⓐ $\frac{2}{3}, \frac{2}{8}, \frac{2}{2}$
Ⓑ $\frac{2}{2}, \frac{2}{8}, \frac{2}{3}$
Ⓒ $\frac{2}{8}, \frac{2}{2}, \frac{2}{3}$
● $\frac{2}{2}, \frac{2}{3}, \frac{2}{8}$

17. Sara was doing her math homework. She wrote:

$$6 + 6 + 6$$

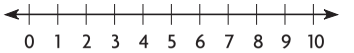
Which is another way to show what Sara wrote?

Ⓐ 3×3
● 3×6
Ⓒ $6 + 3$
Ⓓ 6×6

18. Mrs. Risley looked in 7 baskets for yarn. In each basket she found 0 balls of yarn. Which sentence represents the total number of balls of yarn Mrs. Risley found?

● $7 \times 0 = 0$
Ⓑ $7 + 0 = 7$
Ⓒ $7 \times 1 = 7$
Ⓓ $7 - 7 = 0$

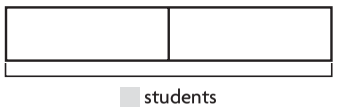
19. There are 4 packages of granola bars left in a box. Each package contains 2 granola bars.



How many granola bars are left in the box in all?

Ⓐ 2
Ⓑ 6
● 8
Ⓓ 10

20. Miss Rourke divided her class into 2 groups. Each group had 8 students.



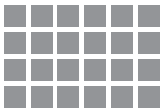
How many students are in Miss Rourke's class in all?

Ⓐ 4
Ⓑ 10
Ⓒ 14
● 16

GO ON

Name _____ End of Year Test Page 5

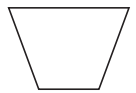
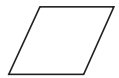
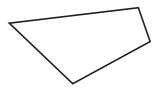
21. Kayla drew an array to show the number of desks in her classroom.



Which multiplication sentence shows the total number of desks in Kayla's classroom?

- ● A $4 \times 6 = 24$
- B $4 \times 7 = 28$
- C $4 \times 4 = 16$
- D $3 \times 6 = 18$

22. Franco draws a quadrilateral with four right angles. Which shape does Franco draw?

- A 
- B 
- ● 
- D 

23. Edward draws a quadrilateral.

Which word can be used to describe the dashed sides of his quadrilateral?

- ● parallel
- B perpendicular
- C point
- D triangle

24. Which capital letter appears to have an angle that is less than a right angle?

- A T
- B E
- C L
- ● Y

25. Ariana drew a polygon with 5 sides. What is the name of the polygon she drew?

- A octagon
- ● pentagon
- C hexagon
- D triangle

GO ON

Name _____ End of Year Test Page 6

26. The third-grade class has 32 students. The students stand in 4 equal rows during a concert. How many students stand in each row?

- A 6
- B 7
- ● 8
- D 9

27. Mr. Marshall buys 3 gift cards to the electronics shop. Each gift card is worth $40. What is the total cost of the 3 gift cards?

- A $43
- B $80
- C $90
- ● $120

28. An elephant can drink about 40 gallons of water in a day. How many gallons of water can an elephant drink in 5 days?

- A 20
- ● 200
- C 400
- D 9,000

29. A student makes a table as part of a science project.

Spiders	2	3	4	5	6
Legs	16	24	32	40	48

Which of the following describes a pattern shown in the table?

- ● Multiply the number of spiders by 8.
- B Multiply the number of spiders by 6.
- C Add 8 legs for each spider.
- D Add 12 legs for each spider.

30. Ana divided 42 pennies into 7 different piles. Each pile has the same number of pennies. How many pennies did Ana put in each pile?

$42 \div 7 = a$

$7 \times a = 42$

- A 4
- B 5
- ● 6
- D 8

GO ON

Name _____ **End of Year Test Page 7**

31. Mario found 60 acorns. He put 10 acorns in each bag. How many bags did Mario use?

(A) 2
● 6
(B) 3
(D) 10

32. Kwan has 4 boxes of crayons. Each box has the same number of crayons. He lost 5 crayons. Now he has 27 crayons. How many crayons were in each box?

● 8
(C) 32
(B) 9
(D) 36

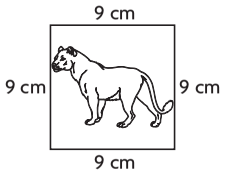
33. Carla uses the order of operations to find the unknown number.

$2 + 6 \times 3 = b$

What is the unknown number?

(A) $b = 8$
(B) $b = 18$
● $b = 20$
(D) $b = 24$

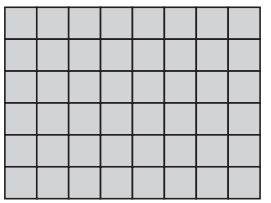
34. Bill drew this picture.



What is the perimeter of Bill's picture?

(A) 18 centimeters
(B) 27 centimeters
● 36 centimeters
(D) 81 centimeters

35. The drawing shows Erik's plan for a dog run. Each unit square is 1 square foot.



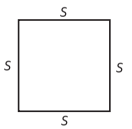
Which equation can Erik use to find the area of the dog run?

(A) $6 + 8 + 6 + 8 = 28$
● $6 \times 8 = 48$
(C) $6 \times 6 = 36$
(D) $8 \times 8 = 64$

GO ON

Name _____ **End of Year Test Page 8**

36. Hasan uses a ruler to draw a square. The perimeter of the square is 16 inches.



What is the length of one side of the square?

(A) 64 inches
(B) 10 inches
(C) 8 inches
● 4 inches

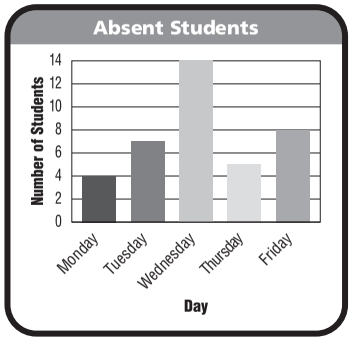
37. Mrs. Parker has two gardens in her yard. The first garden is 6 feet long and 4 feet wide. The second garden is the same length as the first garden. The area of the second garden is twice the area of the first garden. What is the width of the second garden?

(A) 2 feet
(B) 3 feet
(C) 6 feet
● 8 feet

38. Franklin is making a bar graph to show the favorite lunch choices of his classmates. Which lunch choice will have the longest bar in his graph?

(A) 6 votes for tacos
(B) 3 votes for tuna melts
● 8 votes for chicken nuggets
(D) 5 votes for turkey sandwiches

39. The principal made a bar graph to show the number of absent students at school over a five-day period.



On which day were twice as many students absent as on Tuesday?

(A) Monday
(C) Thursday
● Wednesday
(D) Friday

GO ON

Name _____

40. All 31 students in Sasha's class chose their favorite after-school club. Sasha shows the number of students that chose each club in a tally table.

Favorite After-School Clubs	
After-School Club	**Tally**
Chess	𝍸
Music	𝍸 𝍸 |
Computer	𝍸 𝍸
Sports	𝍸 ||

How many students chose either the computer club or the chess club?

(A) 4
● 13
(B) 9
(D) 14

41. A third-grade class made a picture graph to show the number of students who walk to school. This is the key to their picture graph.

Key: Each ☺ = 2 students.

How many students does ☺☺☹ stand for?

(A) 2
(C) 4
(B) 3
● 5

42. There are 5 areas in the science fair. In each area, there are 9 projects. How many projects are in the science fair?

(A) 14
(C) 40
(B) 36
● 45

43. A fair booth has 8 fishbowls on display. Each fishbowl has 3 clownfish in it. How many clownfish are on display in the fair booth?

● 24
(C) 18
(B) 21
(D) 11

44. Valerie has 2 envelopes in each of her 3 drawers. Each envelope has 6 stickers. How many stickers does she have in all?

(A) 6
(C) 18
(B) 12
● 36

GO ON

Name _____

45. Jamie writes a number sentence that is an example of the Distributive Property. Which shows Jamie's number sentence?

(A) $8 \times 9 = 70 + 2$
(B) $8 \times 9 = 8 \times (5 \times 4)$
● $8 \times 9 = (8 \times 5) + (8 \times 4)$
(D) $8 \times 9 = 9 \times 8$

46. Jordana wants to make $1.25 using dollars, half dollars, and quarters. How many different ways can she make $1.25?

(A) 3
(C) 5
● 4
(D) 6

47. Four friends share 6 cookies equally.

How much does each friend get?

(A) 1 whole and 1 sixth
(B) 1 whole and 1 fourth
(C) 1 whole and 1 third
● 1 whole and 1 half

48. Raul divides this shape into equal parts.

What is the name for the parts?

● thirds
(B) eighths
(C) fourths
(D) halves

49. Wendy uses 20 beads to make a bracelet. One fourth of the beads are red. How many of the beads are red?

(A) 4
(C) 8
● 5
(D) 10

50. Han has 8 video games. He brings 3 video games to his friend's house. What fraction of his video games does Han bring to his friend's house?

● $\frac{3}{8}$
(C) $\frac{3}{5}$
(B) $\frac{5}{8}$
(D) $\frac{8}{3}$

STOP