Name _____

Prerequisite Skills Inventory for Grade 5
Page 1

Write the correct answer.

1. An office supply store sold 310,409 pencils last year. What is the expanded form of 310,409?

300,000 + 10,000 + 400 + 9

2. The population of Yuba City, California is 60,360 people. What is 60,360 rounded to the nearest thousand?

60,000

3. Last year, the local animal shelter found homes for 12,308 dogs and 7,953 cats. What is the total number of dogs and cats the animal shelter found homes for last year?

20,261 dogs and cats

4. The area of South Dakota is 77,353 square miles. The area of North Dakota is 70,700 square miles. How many square miles greater is the area of South Dakota than the area of North Dakota?

6,653 square miles

5. Juan wrote this pattern on his paper.

$3 \times 6 = 18$

$3 \times 60 = 180$

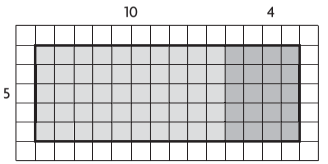
$3 \times 600 = 1{,}800$

$3 \times 6{,}000 = \square$

What is the unknown number in Juan's pattern?

18,000

6. James uses the Distributive Property to find how many cans of paint are in the art supply closet. There are 5 boxes in the closet. Each box holds 14 cans.



How many cans of paint are in the closet?

70 paint cans

GO ON

Name _____

Prerequisite Skills Inventory for Grade 5
Page 2

7. Ling's parents buy 4 tickets for the nature museum. Each ticket costs $13. What is the total cost of the 4 tickets?

$52

8. The theater has 1,678 seats. A magician performed 3 sold out shows at the theater. How many people were able to see the magician's show?

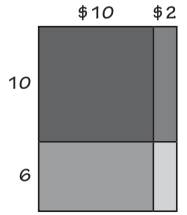
5,034 people

9. Erin has 4 bags with 19 marbles in each bag. She also has 7 bags with 14 marbles in each bag. She gives 23 marbles to her brother. She wrote this expression to find how many marbles she has left. How many marbles does Erin have left?

$4 \times 19 + 7 \times 14 - 23$

151 marbles

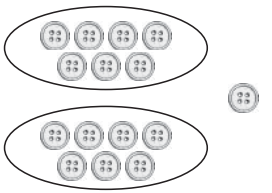
10. Risley's Restaurant charges $12 for a spaghetti dinner special. During one hour 16 people ordered the spaghetti dinner special.



What is the total amount Risley's Restaurant charged during that hour for the spaghetti dinner specials?

$192

11. Anya used buttons to model a division problem.



The division problem this model represents is 15 ÷ 2.
The quotient is 7 and the remainder is 1.

12. The Distributive Property can help you divide. Show how you can break apart the dividend to find the quotient for 224 ÷ 7.

Possible answer:
(210 ÷ 7) + (14 ÷ 7) = 30 + 2 = 32

GO ON

Name _____

Prerequisite Skills Inventory for Grade 5
Page 3

13. On Saturday, a total of 1,292 people went to see a new movie. There were 4 different showings for the new movie and the same number of people attended each showing. How many people attended each showing?

323 people

14. A dentist bought 9 bags of prizes for his patients. Each bag had 12 prizes. The prizes were divided equally among 3 boxes. How many prizes were in each box?

36 prizes

15. Rylee is learning about prime numbers in math class. Her friend asked her to name all the prime numbers between 10 and 20. What numbers should Rylee name?

11, 13, 17, 19

16. Cassie wrote some numbers in a number pattern.

14, 17, 12, 15, 10, 13, 8, 11

What should be the next number in her pattern?

6

17. Mrs. Dalton needs $\frac{1}{2}$ cup mixed nuts for her granola recipe. She only has a $\frac{1}{4}$ cup measuring cup. Write the equivalent fraction that shows the amount of mixed nuts she will use for the recipe.

$\frac{2}{4}$ cup

18. Michael is practicing the piano. He spends $\frac{1}{2}$ hour practicing scales and $\frac{1}{4}$ hour practicing the piece for his recital. What is a common denominator for $\frac{1}{2}$ and $\frac{1}{4}$?

Possible answer: 4

19. Julia and Sam rode their bikes on the bike path. Julia rode her bike $\frac{3}{10}$ of the path's distance. Sam rode his bike $\frac{4}{8}$ of the path's distance. Compare the distances using $<$, $>$, or $=$.

Possible answers: $\frac{3}{10} < \frac{4}{8}$ or $\frac{4}{8} > \frac{3}{10}$

GO ON

Name _____

Prerequisite Skills Inventory for Grade 5
Page 4

20. Ali needs $\frac{4}{10}$ yard of red ribbon and $\frac{5}{10}$ yard of blue ribbon to make a tail for her kite. How much ribbon does Ali need in all?

$\frac{9}{10}$ yard

21. Bryan brought $\frac{8}{10}$ gallon of water on a hiking trip. He drank $\frac{4}{10}$ gallon of water. How much water is left?

$\frac{4}{10}$ gallon or $\frac{2}{5}$ gallon

22. Lily has two kittens. One kitten weighs $\frac{15}{16}$ pound. The other kitten weighs $\frac{12}{16}$ pound. What is the difference in the weights of the two kittens?

$\frac{3}{16}$ pound

23. Jamie put $2\frac{3}{12}$ pounds of green apples into a bag. He then added $3\frac{5}{12}$ pounds of red apples into the same bag. What is the total weight of the apples in the bag?

Possible answer: $5\frac{8}{12}$ pounds

24. Mrs. Laska buys $4\frac{5}{8}$ yards of blue fabric and $2\frac{1}{8}$ yards of green fabric. How many more yards of blue fabric than green fabric does Mrs. Laska buy?

Possible answer: $2\frac{4}{8}$ yards

25. In Crosby's model collection, $\frac{5}{16}$ of the models are trains and $\frac{7}{16}$ of the models are cars. What part of Crosby's model collection is trains and cars?

Possible answer: $\frac{12}{16}$ of the collection is trains and cars

26. Leo walks his dog $\frac{7}{8}$ mile. He walks his dog 3 times a day. How far does Leo walk his dog every day? Show how you can use repeated addition to solve.

$\frac{7}{8} + \frac{7}{8} + \frac{7}{8} = \frac{21}{8}$ miles, or $2\frac{5}{8}$ miles

GO ON

Name _____ **Prerequisite Skills Inventory for Grade 5 Page 5**

27. On Tuesday, Lilly spent $\frac{1}{4}$ hour working on her science fair project. Ben worked 3 times as long on his science fair project as Lilly did. How much time did Ben spend on his science fair project?

$\frac{3}{4}$ hour

28. It takes Akio's family $2\frac{1}{2}$ hours to drive from their home to the beach. It takes his family 3 times as long to drive to the mountains as it takes to drive to the beach. How long does it take Akio's family to drive from their home to the mountains?

$7\frac{1}{2}$ hours

29. The stout infantfish is one of the world's smallest fish. It is only about $8\frac{4}{10}$ millimeters long. What is this length written as a decimal?

8.4 millimeters

30. The distance from Davina's house to her school is $2\frac{75}{100}$ miles. What is this distance written as a decimal?

2.75 miles

31. Jill buys a tomato that weighs 0.9 pound. Write the weight of the tomato as a fraction with a denominator of 100.

$\frac{90}{100}$ pound

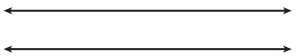
32. Use $<$, $>$, or $=$ to compare 0.36 and 0.4.

Possible answers: $0.36 < 0.4$ or $0.4 > 0.36$

33. Henry draws an obtuse triangle. How many obtuse angles does Henry's triangle have?

1 obtuse angle

34. What term **best** describes the lines shown?



Write *perpendicular, parallel,* or *intersecting.*

parallel

GO ON

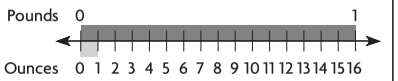
Name _____ **Prerequisite Skills Inventory for Grade 5 Page 6**

35. Tyler uses craft sticks to make a quadrilateral like the one shown.

Tell whether she made a *trapezoid, parallelogram, rhombus, rectangle,* or *square.*

trapezoid

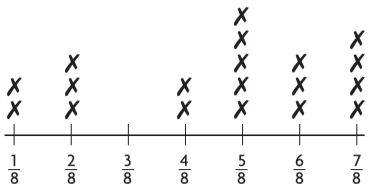
36. A puppy weighs 3 pounds.



What is the puppy's weight in ounces?

48 ounces

37. The line plot shows the lengths of some leaves Madison collected on a hike.



How many leaves were longer than $\frac{5}{8}$ inch?

7 leaves

38. A piece of ribbon is 86 centimeters long.

Metric Units of Length
1 centimeter (cm) = 10 millimeters (mm)
1 decimeter (dm) = 10 centimeters
1 meter (m) = 10 decimeters
1 meter (m) = 100 centimeters
1 meter (m) = 1,000 millimeters

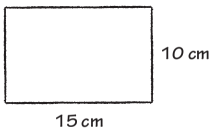
Using the information in the chart, find the length of the ribbon in meters.

Possible answers: $\frac{86}{100}$ meter or 0.86 meter

39. Mr. Rourke is 5 feet 8 inches tall. How tall is Mr. Rourke in inches?

68 inches

40. Greta wants to put ribbon around the perimeter of her art project. How many centimeters of ribbon will she need?



50 centimeters

STOP

Name _____

Beginning of Year Test
Page 1

Choose the correct answer.

1. Judith has a necklace with a mass of 65.736 grams. What is the mass of her necklace rounded to the nearest tenth?

- ● 65.7 grams
- Ⓑ 65.74 grams
- Ⓒ 65.8 grams
- Ⓓ 66.0 grams

2. The library is 3.56 kilometers from Maria's house and 1.38 kilometers from Simon's house. How much farther does Maria live from the library than Simon?

- Ⓐ 4.94 kilometers
- Ⓑ 2.28 kilometers
- ● 2.18 kilometers
- Ⓓ 1.18 kilometers

3. Crystal's tomato plant was 32.65 centimeters tall in June. During July, the plant grew 82.6 centimeters. How tall was Crystal's tomato plant at the end of July?

- Ⓐ 409.1 centimeters
- ● 115.25 centimeters
- Ⓒ 49.95 centimeters
- Ⓓ 40.91 centimeters

4. Rick and Chad are playing a number pattern game. Rick wrote the following pattern.

32.3, 34.5, 36.7, ____, 41.1

What is the unknown number in the pattern Rick wrote?

- Ⓐ 37.9
- Ⓑ 38.8
- ● 38.9
- Ⓓ 39.9

5. Yolanda read her book for $1\frac{1}{5}$ hours Monday evening and for $2\frac{3}{5}$ hours on Tuesday evening. Which is the **best** estimate of the time Yolanda read on Monday and Tuesday?

- Ⓐ about $\frac{4}{5}$ hour
- Ⓑ about 3 hours
- Ⓒ about $3\frac{1}{2}$ hours
- ● about 4 hours

GO ON

Name _____

Beginning of Year Test
Page 2

6. Francine has a piece of wood that is $5\frac{5}{12}$ feet long. She uses $3\frac{1}{4}$ feet of the wood for a science project. How much wood does Francine have left?

- Ⓐ $8\frac{2}{3}$ feet
- Ⓑ $3\frac{2}{12}$ feet
- Ⓒ $2\frac{4}{12}$ feet
- ● $2\frac{2}{12}$ feet

7. Kevin has 3 bags of apples weighing a total of $22\frac{1}{2}$ pounds. Two of the bags weigh $6\frac{3}{8}$ pounds and $3\frac{1}{4}$ pounds. How much does the third bag weigh?

- Ⓐ $11\frac{7}{8}$ pounds
- Ⓑ $12\frac{4}{8}$ pounds
- ● $12\frac{7}{8}$ pounds
- Ⓓ $13\frac{5}{8}$ pounds

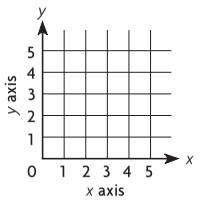
8. Aisha hiked each day for a week. The first day she hiked $\frac{1}{6}$ mile, the second day she hiked $\frac{1}{2}$ mile, and the third day she hiked $\frac{5}{6}$ mile. By how much did she increase the distance she hiked each day?

- Ⓐ $\frac{9}{6}$ miles
- Ⓑ $\frac{5}{6}$ mile
- Ⓒ $\frac{1}{2}$ mile
- ● $\frac{1}{3}$ mile

9. A corn muffin recipe calls for $\frac{1}{4}$ cup of cornmeal and $\frac{5}{6}$ cup of flour. What is the least common denominator of the fractions?

- Ⓐ 6
- ● 12
- Ⓒ 18
- Ⓓ 24

10. On a coordinate grid, Carrie's house is located 3 blocks to the right and 4 blocks up from (0, 0). Mike's house is located 2 blocks to the left and 2 blocks down from Carrie's house. What ordered pair describes the location of Mike's house?



- Ⓐ (1, 5)
- Ⓑ (2, 1)
- ● (1, 2)
- Ⓓ (5, 2)

GO ON

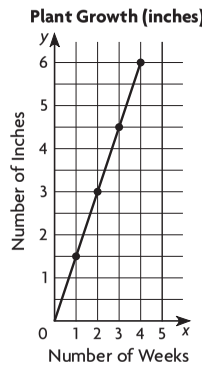
Name _____ **Beginning of Year Test Page 3**

11. What is the unknown number in Sequence 2 in the chart?

Sequence Number	1	2	3	6	8
Sequence 1	4	8	12	24	32
Sequence 2	12	24	36	72	?

(A) 64
(B) 80
● 96
(D) 106

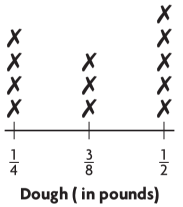
12. The graph shows the relationship between the number of weeks and plant growth in inches.



What rule relates the number of weeks and plant growth in inches?

● Multiply the number of weeks by $1\frac{1}{2}$.
(B) Multiply the number of weeks by $1\frac{1}{3}$.
(C) Multiply the number of weeks by $1\frac{1}{4}$.
(D) Multiply the number of weeks by $\frac{1}{2}$.

13. A baker is weighing the dough that will be used to make pastries. The line plot shows the weight of the dough for each pastry.



How many pastries will be made from at least $\frac{3}{8}$ pound of dough?

(A) 4
(B) 7
● 8
(D) 9

14. Marvin is buying a new computer on layaway for $302. If he makes a down payment of $50 and pays $28 each week, how many weeks will it take Marvin to pay for the computer?

(A) 8
● 9
(C) 10
(D) 12

GO ON

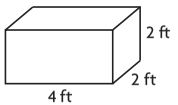
Name _____ **Beginning of Year Test Page 4**

15. Mary drew a picture of her flower garden.

What type of quadrilateral is Mary's garden?

(A) rectangle
(B) rhombus
(C) square
● trapezoid

16. Dmitri made a box with the dimensions shown to hold his modeling supplies.



What is the volume of the box?

(A) 8 cubic feet
(B) 14 cubic feet
● 16 cubic feet
(D) 18 cubic feet

17. The sidewalk tiles leading to the town library are shaped like regular hexagons. Which of the following describes a regular hexagon?

● a figure with 6 congruent sides and 6 congruent angles
(B) a figure with 6 sides and angles that are not congruent
(C) a figure with 5 sides and 5 angles that are not congruent
(D) a figure with 5 congruent sides and 5 congruent angles

18. A toy box in the shape of a rectangular prism has a volume of 672 cubic inches. The base area of the toy box is 28 square inches. What is the height of the toy box?

(A) 10 inches
(B) 12 inches
(C) 22 inches
● 24 inches

19. A pizza parlor uses 42 tomatoes for each batch of tomato sauce. About how many batches of sauce can the pizza parlor make from its last shipment of 1,236 tomatoes?

(A) 20
● 30
(C) 35
(D) 48

GO ON

Name _____

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Page 5

20. The art teacher has a list of 134 students who have signed up for art classes. The art teacher can register 8 students in each class. What is the least number of classes needed for all the students to be registered in a class?

Ⓐ 16
● 17
Ⓒ 18
Ⓓ 19

21. The number of roses Mr. Adams ordered for his store was three times as many as the number of carnations ordered. He ordered a total of 56 flowers. How many roses did Mr. Adams order?

Ⓐ 14
Ⓑ 28
Ⓒ 34
● 42

22. The owner of a clothing store received a shipment of 1,230 pairs of socks. The socks came in 36 boxes. The same number of pairs of socks were in 35 of the boxes. How many pairs of socks were in the last box?

Ⓐ 2
● 5
Ⓒ 15
Ⓓ 35

23. Jared uses 24 tiles to cover the top of his desk. Of the 24 tiles, $\frac{3}{8}$ are blue. How many of the tiles are blue?

Ⓐ 3
Ⓑ 8
● 9
Ⓓ 12

24. Tony worked $4\frac{2}{3}$ hours on his science project. Sonia worked $1\frac{1}{4}$ times as long on her science project as Tony did. For how many hours did Sonia work on her science project?

Ⓐ $4\frac{5}{6}$ hours
Ⓑ 5 hours
Ⓒ $5\frac{1}{3}$ hours
● $5\frac{5}{6}$ hours

25. Julia had $\frac{2}{3}$ quart of cleaning liquid. She used $\frac{1}{4}$ of it to clean the sink counter. How much cleaning liquid did Julia use?

Ⓐ $\frac{1}{8}$ quart
● $\frac{1}{6}$ quart
Ⓒ $\frac{1}{2}$ quart
Ⓓ $\frac{5}{12}$ quart

GO ON

Name _____

Beginning of Year Test
Page 6

26. Carlos had 24 class play tickets to sell. He sold $\frac{3}{4}$ of the tickets. How many tickets did Carlos sell?

Ⓐ 16
● 18
Ⓒ 24
Ⓓ 26

27. Noreen made $8\frac{2}{3}$ cups of snack mix for a party. Her guests ate $\frac{3}{4}$ of the mix. How much snack mix did her guests eat?

Ⓐ $5\frac{1}{4}$ cups
Ⓑ $5\frac{3}{4}$ cups
Ⓒ $6\frac{5}{12}$ cups
● $6\frac{1}{2}$ cups

28. Ganesh is stacking boxes in a storage room. There are 12 boxes in all. If each box weighs 9.6 pounds, how much do the boxes weigh altogether?

Ⓐ 11.25 pounds
Ⓑ 21.6 pounds
● 115.2 pounds
Ⓓ 1,152 pounds

29. The instruction booklet for a DVD player says that the player uses about 0.4 kilowatt of electricity per hour. If electricity costs $0.20 per kilowatt hour, how much does it cost to run the player for an hour?

● $0.08
Ⓑ $0.80
Ⓒ $8.00
Ⓓ $80.00

30. Rhianna was doing research for a report about the highest mountains in the United States. She read that the Grand Teton in Wyoming is about 1.37×10^4 feet high. How should Rhianna write the height of the Grand Teton in standard form on her report?

Ⓐ 137 feet
Ⓑ 1,370 feet
● 13,700 feet
Ⓓ 137,000 feet

GO ON

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

31. Jeremy is training for a race. When he trains, he runs on a path that is 1.25 miles long. Last week, Jeremy ran on the path 7 times. How many miles did Jeremy run on the path last week?

(A) 0.875 mile
(B) 8.75 miles
(C) 87.5 miles
(D) 875 miles

32. There is $\frac{1}{3}$ pound of cake that will be shared equally among 4 friends. What fraction of a pound of cake will each friend get?

(A) $\frac{1}{12}$ pound
(B) $\frac{1}{6}$ pound
(C) $\frac{1}{2}$ pound
(D) $\frac{3}{4}$ pound

33. At lunch, 5 friends share 3 pizzas equally. What fraction of a pizza does each friend get?

(A) $\frac{3}{5}$
(B) $\frac{2}{3}$
(C) $\frac{3}{4}$
(D) $1\frac{1}{5}$

34. Julie has $\frac{3}{4}$ quart of fruit juice. She pours the same amount into each of 4 glasses. Which equation represents the fraction of a quart of fruit juice n that is in each glass?

(A) $\frac{3}{4} \div \frac{1}{4} = n$
(B) $4 \div \frac{3}{4} = n$
(C) $\frac{3}{4} \div 4 = n$
(D) $3 \div 4 = n$

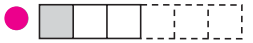
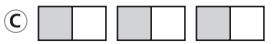
35. Terry evaluates $6 \div \frac{1}{8}$ by using a related multiplication expression. Which multiplication expression should he use?

(A) $6 \times \frac{1}{8}$
(B) $\frac{1}{6} \times \frac{1}{8}$
(C) $\frac{1}{6} \times 8$
(D) 6×8

GO ON

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

36. Eli made a loaf of bread. He gave equal portions of $\frac{1}{2}$ of the loaf to 3 friends. What diagram could Eli use to find the fraction of the whole loaf of bread that each friend got?

(A) 
(B) 
(C) 
(D) 

37. Lori rode her bicycle 19.5 miles in 3 hours. Which gives the best estimate of how far Lori rode in 1 hour?

(A) between 4 and 5 miles
(B) between 5 and 6 miles
(C) between 6 and 7 miles
(D) between 7 and 8 miles

38. Roger is riding in a bike-a-thon to raise money for his favorite charity. The total distance of the bike-a-thon is 38.7 miles. So far he has completed $\frac{1}{10}$ of the bike-a-thon. How many miles has Roger biked?

(A) 387 miles
(B) 38.7 miles
(C) 3.87 miles
(D) 0.387 mile

39. Ellen is making small bags of confetti from a large bag of confetti that weighs 4.75 pounds. If she puts the same amount of confetti in each of 5 bags, how much should each bag weigh?

(A) 0.09 pound
(B) 0.9 pound
(C) 0.95 pound
(D) 9.1 pounds

40. Trevor bought apples that cost $0.92 per pound. He paid $5.52 for the apples. How many pounds of apples did he buy?

(A) 60 pounds
(B) 6 pounds
(C) 0.6 pound
(D) 0.06 pound

GO ON

Name _____

41. Carly spent a total of $18.20 on Saturday afternoon. She bought a movie ticket for $8.25 and snacks for $3.85. She spent the rest of the money on bus fare to get to the movie and back home. How much was the bus fare each way if each trip cost the same amount?

(A) $2.20
● $3.05
(C) $6.10
(D) $6.20

42. A publisher reports that it sold 1,516,792 travel magazines. What is the value of the digit 5 in 1,516,792 ?

(A) 5,000
(B) 50,000
● 500,000
(D) 5,000,000

43. Martin is buying 400 video games for his entertainment store. Each video game costs $20. Which of the following could he use to find the total amount he will pay for the video games?

(A) $(4 \times 2) \times 10^2 = 800$
● $(4 \times 2) \times 10^3 = 8{,}000$
(C) $(4 \times 2) \times 10^4 = 80{,}000$
(D) $(4 \times 2) \times 10^5 = 800{,}000$

44. Jamie's dad travels 365 miles every week for business. How many miles does he travel in 4 weeks?

(A) 1,260 miles
(B) 1,360 miles
(C) 1,450 miles
● 1,460 miles

45. Amber and her friend Nathan are saving to buy a video game that costs $65. Amber earns $12 per week for babysitting and spends $4 of it. Nathan earns $15 per week for walking dogs and spends $8 of it. Which expression can be used to find how many weeks it will take to save for the video game?

● $65 \div [(12 - 4) + (15 - 8)]$
(B) $65 \div [(12 + 4) - (15 + 8)]$
(C) $65 \div [(12 - 4) + (15 + 8)]$
(D) $65 \div [(12 + 4) - (15 - 8)]$

GO ON

Name _____

46. Chen took 54 photos with his digital camera. He stored an equal number of photos in each of 6 folders on his computer. Which multiplication sentence could Chen use to find the number of photos in each folder?

(A) $54 \div 6 = 9$
(B) $5 \times 9 = 45$
● $6 \times 9 = 54$
(D) $6 \times 54 = 324$

47. Rachel's home is 5 miles from her school. How many yards are in 5 miles?

(A) 1,760 yards
(B) 7,800 yards
● 8,800 yards
(D) 26,400 yards

48. Sarah bought 6 pounds of clay for pottery class. How many ounces of clay did Sarah buy?

(A) 48 ounces
(B) 64 ounces
(C) 80 ounces
● 96 ounces

49. The basketball game at the high school started at 7:30 P.M. and ended at 10:38 P.M. How long did the game last?

(A) 2 hours 8 minutes
(B) 2 hours 18 minutes
● 3 hours 8 minutes
(D) 3 hours 18 minutes

50. Kate used 6.15 meters of ribbon to make bows. How many centimeters of ribbon did she use?

● 615 centimeters
(B) 61.5 centimeters
(C) 6.15 centimeters
(D) 0.615 centimeter

STOP

Name _____ **Chapter 1 Test Page 1**

1. Find the property that each equation shows.

Write the equation in the correct box.

$11 \times (4 \times 6) = (11 \times 4) \times 6$	$14 + 27 + 18 = 27 + 14 + 18$
$15 + (12 + 11) = (15 + 12) + 11$	$18 \times 2 = 2 \times 18$
$5 \times 1 = 5$	$72 + 0 = 72$

Commutative Property of Multiplication	Associative Property of Addition	Identity Property of Addition
$18 \times 2 = 2 \times 18$	$15 + (12 + 11) = (15 + 12) + 11$	$72 + 0 = 72$
Commutative Property of Addition	**Associative Property of Multiplication**	**Identity Property of Multiplication**
$14 + 27 + 18 = 27 + 14 + 18$	$11 \times (4 \times 6) = (11 \times 4) \times 6$	$5 \times 1 = 5$

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

2a. 50 is $\frac{1}{10}$ of 500. ● True ○ False

2b. 290 is 10 times as much as 2,900. ○ True ● False

2c. 6,500 is 10 times as much as 65. ○ True ● False

2d. 700 is 10 times as much as 70. ● True ○ False

GO ON

Name _____ **Chapter 1 Test Page 2**

3. Select other ways to write 304,672. Mark all that apply.

● $(3 \times 100{,}000) + (4 \times 1{,}000) + (6 \times 100) + (7 \times 10) + (2 \times 1)$

Ⓑ three hundred forty thousands, six hundred seventy-two

● $300{,}000 + 4{,}000 + 600 + 70 + 2$

Ⓓ 30 hundred thousand + 4 thousands + 6 hundreds + 70 tens + 2 ones

4. Erica earned 30,000 bonus points on her computer assignment. This is 10 times as many bonus points as she earned last week. How many bonus points did Erica earn last week?

3,000 points

5. Rich earns $35 per week mowing lawns in his neighborhood. Which expression can be used to show how much money he earns in 8 weeks?

Ⓐ $(8 + 30) + (8 + 5)$ Ⓒ $(8 + 30) \times (8 + 5)$

● $(8 \times 30) + (8 \times 5)$ Ⓓ $(8 \times 30) \times (8 \times 5)$

6. The table shows the equations Mr. Berger discussed in math class today.

Equations
$4 \times 10^0 = 4$
$4 \times 10^1 = 40$
$4 \times 10^2 = 400$
$4 \times 10^3 = 4{,}000$

Explain the pattern of zeros in the product when multiplying by powers of 10.

Possible explanation: For each power of ten, the number of zeros written after the base is the same as the number in the exponent.

GO ON

Name _____

Chapter 1 Test
Page 3

7. It is 1,325 feet from Kinsey's house to her school. Kinsey walks to school each morning and gets a ride home each afternoon. How many feet does Kinsey walk to school in 5 days?

6,625 feet

8. Liam saves $12 of his allowance each week. Complete the table to show the total amount Liam saves.

Liam's Savings	
Number of Weeks	Total Amount
4	$48
9	$108
15	$180

9. Kara followed these steps to evaluate the expression $22 + (30 - 4) \div 2$.

$30 - 4 = 26$

$26 + 22 = 48$

$48 \div 2 = 24$

George looks at Kara's work and says she made a mistake. He says she should have divided by 2 before she added.

Part A

Which student is correct? Explain how you know.

George; Possible answer: According to the order of operations, you should perform division before addition.

Part B

Evaluate the expression.

$30 - 4 = 26$ $26 \div 2 = 13$ $22 + 13 = 35$

GO ON

Name _____

Chapter 1 Test
Page 4

10. Fahed buys 12 stickers for $2 each. He also buys 4 sticker albums. Each album costs twice as much as each sticker. Fahed has a coupon that gives him $2 off the sticker albums. Which numerical expression shows how much he spent?

Ⓐ $(12 \times 2) + [(4 \times 2) - 2]$
● $(12 \times 2) + [(4 \times 4) - 2]$
Ⓒ $(12 \times 4) + [(4 \times 4) - 2]$
Ⓓ $(12 \times 4) + [(4 \times 2) + 2]$

11. Evaluate the numerical expression.

$(57 + 4) \times 4 - 16 =$ 228

12. Paul displays his sports trophies on shelves in his room. He has 5 trophies on each of 3 shelves and 2 trophies on another shelf. Write an expression to represent the number of trophies Paul displays.

$(5 \times 3) + 2$

13. Veronica is solving this problem in math class.

Janelle buys 4 cases of water. Each case of water contains 12 bottles. Janelle drinks 3 bottles of water.

Veronica writes a numerical expression to represent the situation. Her expression, $(12 - 3) \times 4$, has a mistake.

Part A

Explain Veronica's mistake.

Possible explanation: Veronica subtracted 3 from 12 when she should have multiplied 12×4 and then subtracted 3 from this amount.

Part B

Write an expression to find how many bottles of water are left, and then solve it.

$(12 \times 4) - 3 = 45$

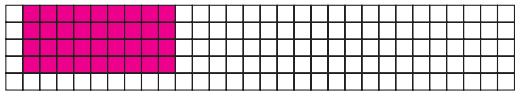
GO ON

Name _____ Chapter 1 Test Page 5

14. Hector has 36 action figures. He separates his action figures into 4 equal groups to share with his friends. How many action figures does each friend get?

Part A

Use the array to show your answer.



Part B

Use the multiplication sentence to complete the division sentence.

$4 \times$ [9] $= 36$ $\quad 36 \div 4 =$ [9]

15. Marcus is making dinner for 7 people. Marcus opens 6 cans of soup. Each can is 14 ounces. If everyone gets the same amount of soup, how much soup will each person get? Use numbers and words to explain your answer.

12 ounces; Possible explanation: First, I multiply $6 \times 14 = 84$ to find the total number of ounces of soup. Then, I divide $84 \div 7 = 12$. So, each person gets 12 ounces of soup.

16. Megan wants to find the quotient. Use multiplication and the Distributive Property to help Megan find the quotient.

$72 \div 4 =$ [18]

Multiplication: **$4 \times 18 = 72$**

Distributive Property: **$(4 \times 10) + (4 \times 8)$**

GO ON

Name _____ Chapter 1 Test Page 6

17. Marlene can type 157 words per minute. If she types at the same rate, how many words can she type in 25 minutes?

3,925 words

18. There are 7 school buses taking students on a field trip. There are 37 students on each bus. How many students are going on the field trip?

259 students

19. Select other ways to write 60,472. Mark all that apply.

- ● $(6 \times 10{,}000) + (4 \times 100) + (7 \times 10) + (2 \times 1)$
- ● $60{,}000 + 400 + 70 + 2$
- ● sixty thousand, four hundred seventy-two
- Ⓓ six thousand, four hundred seventy-two

20. For numbers 20a–20b, select True or False.

20a.	$42 - (9 + 6)$, value: 27	● True	○ False
20b.	$18 + (22 - 4) \div 6$, value: 6	○ True	● False

21. Peter ran 3 miles a day for 17 days. On the 18th day, Peter ran 5 miles. Write an expression that matches the words.

$(3 \times 17) + 5$

22. Select other ways to express 10^4. Mark all that apply.

- Ⓐ 10×4
- Ⓑ $10 + 4$
- Ⓒ 1,000
- ● 10,000
- Ⓔ $10 + 10 + 10 + 10$
- ● $10 \times 10 \times 10 \times 10$

STOP

Name _____ **Chapter 1**

Talking About Phones

1. The Vega family has a cell phone plan that costs $75 per month including taxes and fees. The plan lets the 5 members of the Vega family share 1,000 minutes of talk time per month and 400 text messages per month. Any minutes over 1,000 cost $1 per minute, and any texts over 400 cost $2 per text.

   Because of a family emergency, the family uses 1,050 minutes and 415 texts in March. Write an expression you could use to find the amount of the Vega's cell phone bill for March. Evaluate the expression. Show your work.

$75.00+1(1050-1000)+2(415-400)

50 × 1.00 = 50.00 ; 15 × 2.00 = 30.00

10 < 30

75 + 30 = 155

$155.00

The Vega's bill for March is $155.00.

2. Tomás Vega offers to pay $59 of the March cell phone bill. Each of the other 4 members of the family agrees to split the rest of the bill equally among themselves. How much does each of the 4 family members owe? Show your work.

155.00 − 59.00 = 96.00

4 | 96.00 → 24.00

8↓ 16 16 00 0 00

Each of the 4 family members owes $24.00.

3. The Vega family has a 3-year cell phone contract. Javier Vega says that the family gets a total of 3×10^4 minutes of talk time to share during the 3 years.

   Is Javier correct? If yes, write an expression to show how Javier could have found his answer. If no, explain why Javier is incorrect. Write the correct number of minutes as the product of a whole number and a power of 10. Show your work.

Start here → 3 × 12 × 1,000 = 36,000

This is how many minutes the family would have in 3 years.

So 36,000 = 36×10^3

No, 10^4 = 10,000 which equals only 10 months, not 3 years.

10 × 10 = 100 ; 100 × 10 = 1,000 ; 1,000 × 10 = 10,000

12 × 400 = 4800 ; 4800 × 3 = 14,400 ; 3,000

4. In April, the Vega family gets 400 text messages included in their plan. Together, Tomás and Marisol use half of the messages. Javier and Sergio use 120 messages. Carmen uses the rest of the messages. Write and evaluate an expression to find the number of messages Carmen uses. Show your work.

400 − (400/2 − 120)

400 − 200 − 120

T M) 200 min.

J S) 120 min.

320

400 − 320 = 80

C − 80 min

Carmen uses 80 messages.

Name _____ **Chapter 1**

Talking About Phones

1. The Vega family has a cell phone plan that costs $75 per month including taxes and fees. The plan lets the 5 members of the Vega family share 1,000 minutes of talk time per month and 400 text messages per month. Any minutes over 1,000 cost $1 per minute, and any texts over 400 cost $2 per text.

   Because of a family emergency, the family uses 1,050 minutes and 415 texts in March. Write an expression you could use to find the amount of the Vega's cell phone bill for March. Evaluate the expression. Show your work.

   75.00 + 50.00 + 30.00 = $155.00

   75+(1050-100)+2(415-400)
   $ 75.00 +50+2(15)

   The Vega's bill for March is $155.00.

2. Tomás Vega offers to pay $59 of the March cell phone bill. Each of the other 4 members of the family agrees to split the rest of the bill equally among themselves. How much does each of the 4 family members owe? Show your work.

   155.00 − 59.00 = 96.00

   4 | 96 → 24.00

   Each of the 4 family members owes $24.00

3. The Vega family has a 3-year cell phone contract. Javier Vega says that the family gets a total of 3×10^4 minutes of talk time to share during the 3 years.

   Is Javier correct? If yes, write an expression to show how Javier could have found his answer. If no, explain why Javier is incorrect. Write the correct number of minutes as the product of a whole number and a power of 10. Show your work.

   Javier is incorrect because he said that you do 10^4, but your supposed to do it 10^3, 10^4 equals 10,000 but 10^3 equals 1,000. So Javier is incorrect

4. In April, the Vega family gets 400 text messages included in their plan. Together, Tomás and Marisol use half of the messages. Javier and Sergio use 120 messages. Carmen uses the rest of the messages. Write and evaluate an expression to find the number of messages Carmen uses. Show your work.

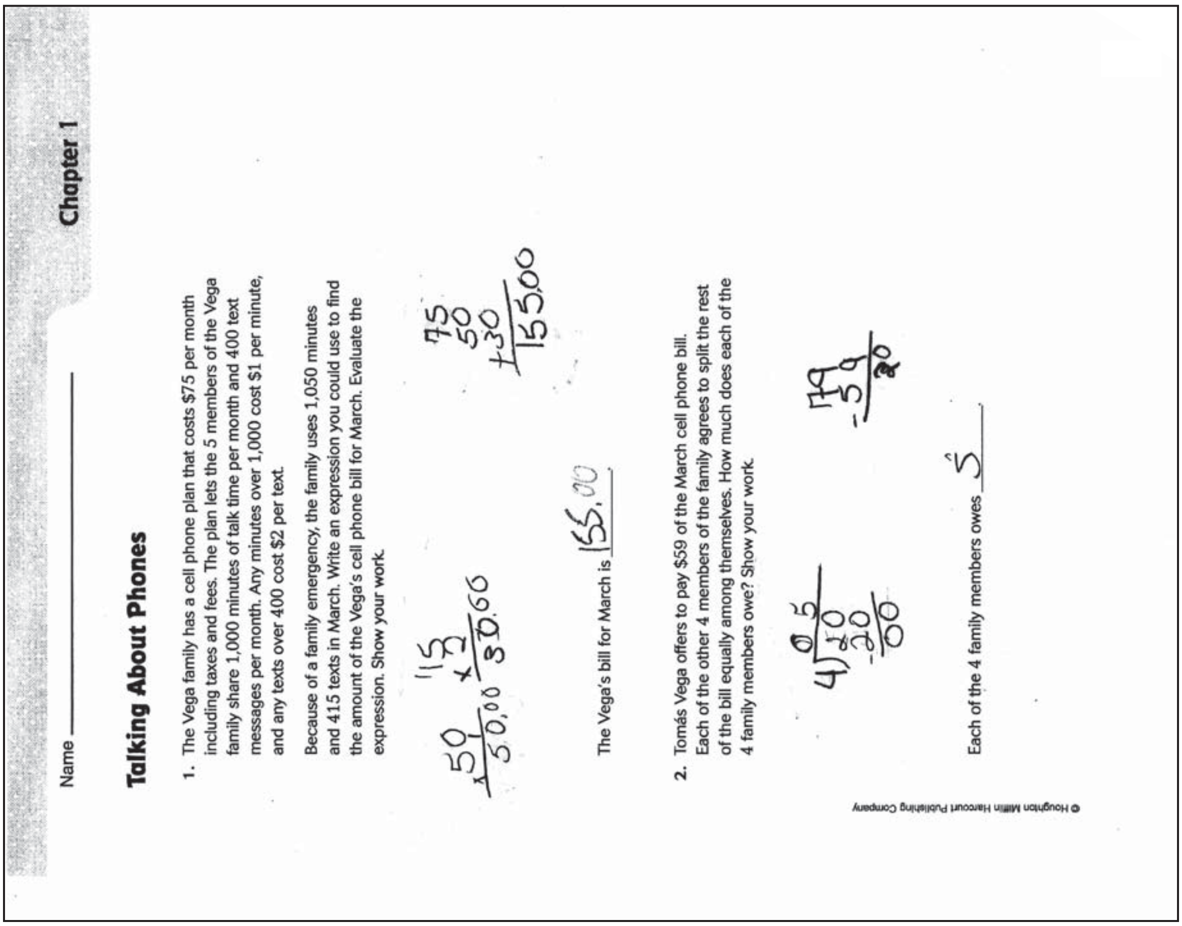
   200+120(330)400-330=70

   200 + 120 = 330

   400 − 330 = 070

   Carmen uses 70 messages.

Sample Level 2 Response



Name ______________________ Chapter 1

Talking About Phones

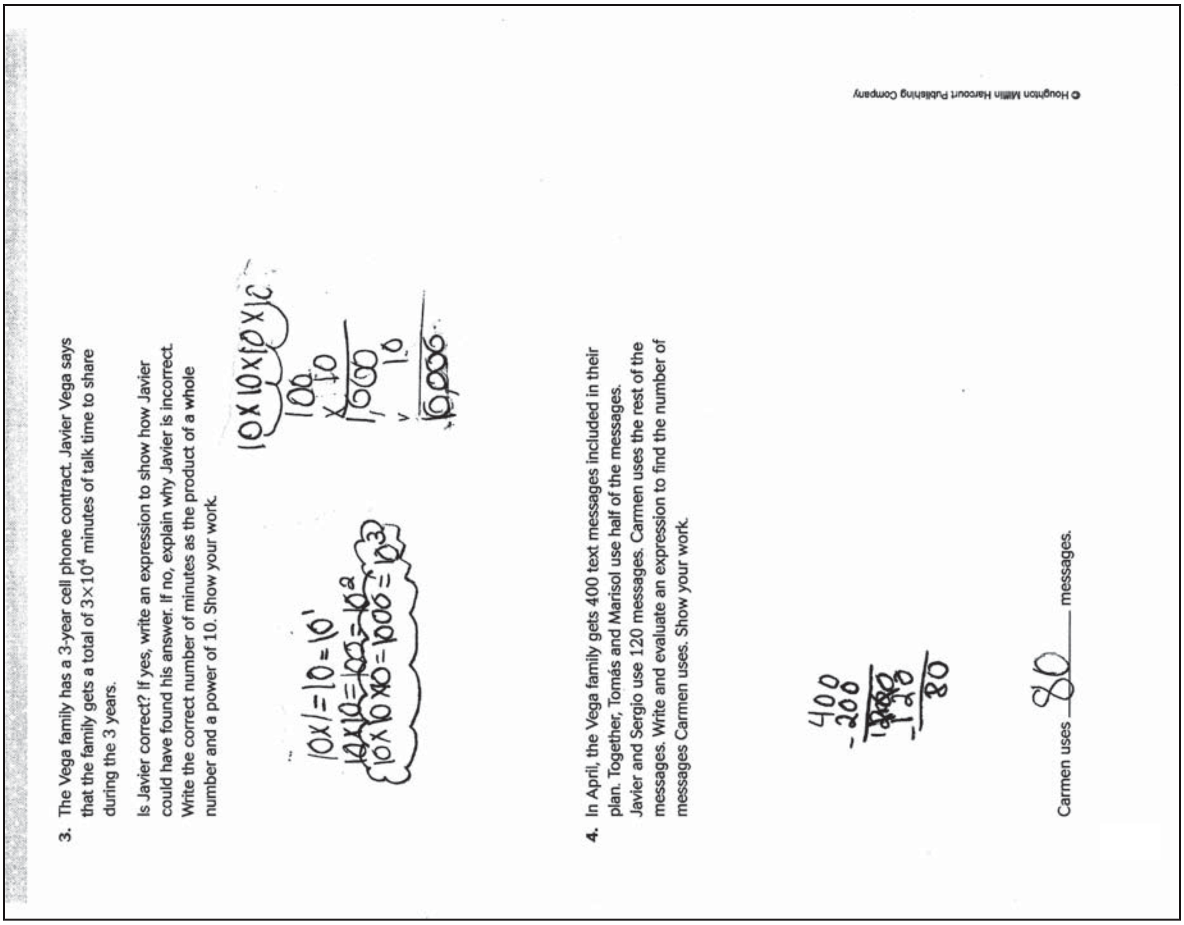
1. The Vega family has a cell phone plan that costs $75 per month including taxes and fees. The plan lets the 5 members of the Vega family share 1,000 minutes of talk time per month and 400 text messages per month. Any minutes over 1,000 cost $1 per minute, and any texts over 400 cost $2 per text.

   Because of a family emergency, the family uses 1,050 minutes and 415 texts in March. Write an expression you could use to find the amount of the Vega's cell phone bill for March. Evaluate the expression. Show your work.

   The Vega's bill for March is 155.00.

2. Tomás Vega offers to pay $59 of the March cell phone bill. Each of the other 4 members of the family agrees to split the rest of the bill equally among themselves. How much does each of the 4 family members owe? Show your work.

   Each of the 4 family members owes 5.



3. The Vega family has a 3-year cell phone contract. Javier Vega says that the family gets a total of 3×10^4 minutes of talk time to share during the 3 years.

   Is Javier correct? If yes, write an expression to show how Javier could have found his answer. If no, explain why Javier is incorrect. Write the correct number of minutes as the product of a whole number and a power of 10. Show your work.

4. In April, the Vega family gets 400 text messages included in their plan. Together, Tomás and Marisol use half of the messages. Javier and Sergio use 120 messages. Carmen uses the rest of the messages. Write and evaluate an expression to find the number of messages Carmen uses. Show your work.

   Carmen uses 80 messages.

Name _____ **Chapter 1**

Talking About Phones

1. The Vega family has a cell phone plan that costs $75 per month including taxes and fees. The plan lets the 5 members of the Vega family share 1,000 minutes of talk time per month and 400 text messages per month. Any minutes over 1,000 cost $1 per minute, and any texts over 400 cost $2 per text.

   Because of a family emergency, the family uses 1,050 minutes and 415 texts in March. Write an expression you could use to find the amount of the Vega's cell phone bill for March. Evaluate the expression. Show your work

   $75.00 + (1050 - 1000) + 2(0.04(15 - 400)) = 155.00$

   $50.00 \times 1.00 = 50.00$ $15.00 \times 2.00 = 30.00$ $75 + 50 + 2 \times (15) = 155.00$

   $75.00 + 50.00 + 30.00 = 155.00$

   The Vega's bill for March is $155.00 = 155$

2. Tomás Vega offers to pay $59 of the March cell phone bill. Each of the other 4 members of the family agrees to split the rest of the bill equally among themselves. How much does each of the 4 family members owe? Show your work.

   4 8 12 16 — 20 24 28 32 — 36 40 44 48 — 52 56 60 64 68

   12 16 20 24 28 32 36 40 44 84 88 92 96

   Each of the 4 family members owes 8^{R6}.

   $4 \overline{)96}$ R6 — 9 — 06

   $5 \overline{)5000}$ 15 — -59 — 0900 — 200

3. The Vega family has a 3-year cell phone contract. Javier Vega says that the family gets a total of 3×10^4 minutes of talk time to share during the 3 years.

   Is Javier correct? If yes, write an expression to show how Javier could have found his answer. If no, explain why Javier is incorrect. Write the correct number of minutes as the product of a whole number and a power of 10. Show your work.

   10 10 10 10 100 no it is not right because they only get 1000 minutes.

4. In April, the Vega family gets 400 text messages included in their plan. Together, Tomás and Marisol use half of the messages. Javier and Sergio use 120 messages. Carmen uses the rest of the messages. Write and evaluate an expression to find the number of messages Carmen uses. Show your work.

   155. 200. 200 + 120 = 675

   Carmen uses 675 messages.

Name _____

Chapter 2 Test
Page 1

1. Choose the word that makes the sentence true.
The first digit in the whole-number quotient of 6,523 ÷ 7

will be placed in the [ones / tens / **hundreds** / thousands] place.

2. For numbers 2a–2d, select True or False to indicate whether the whole-number quotient is correct.

2a.	762 ÷ 3 = 254	● True	○ False
2b.	248 ÷ 8 = 31	● True	○ False
2c.	364 ÷ 4 = 91	● True	○ False
2d.	128 ÷ 8 = 14	○ True	● False

3. Michelle is checking a division problem by doing the following:

$$\begin{array}{r} 128 \\ \times\ \ 7 \\ \hline 896 \\ +\ \ 3 \\ \hline 899 \end{array}$$

What problem is Michelle checking?

$$\begin{array}{r} 128\ \text{r}3 \\ 7\overline{)899} \\ -7 \\ \hline 19 \\ -14 \\ \hline 59 \\ -56 \\ \hline 3 \end{array}$$

Name _____

Chapter 2 Test
Page 2

4. Rebecca's teacher wrote the division problem on the board. Using the vocabulary box, label the parts of the division problem. Then, using the vocabulary, explain how Rebecca can check whether her teacher's whole-number quotient is correct.

whole-number quotient | divisor | dividend

$$\begin{array}{r} \text{whole-number quotient}\ 82 \\ \text{divisor}\ \ 6\overline{)492}\ \ \text{dividend} \end{array}$$

Rebecca can check her teacher's work by multiplying the divisor and the whole-number quotient. If the whole-number quotient is correct, the product should equal the dividend.

5. Jason says the quotient 517 ÷ 5 is 103 r2. Use multiplication to show if Jason's answer is correct.

$$\begin{array}{r} 103 \\ \times\ \ 5 \\ \hline 515 \\ +\ \ 2 \\ \hline 517 \end{array}$$

Jason's answer is correct.

6. Jessie wants to save the same amount of money each week for a trip. He needs $3,060. If the trip is 36 weeks away, how much money should Jessie save each week?

$ 85

7. Robin is having a dinner party for 135 people at her favorite restaurant. If 9 people can be seated at each table, how many tables are there?

15 tables

GO ON

Name _____

Chapter 2 Test
Page 3

8. Divide 986 by 26 by using partial quotients. What is the quotient? Explain your answer using numbers and words.

26)986		
−260	10 × 26	10
726		
−260	10 × 26	10
466		
−260	10 × 26	10
206		
−182	7 × 26	+7
24		37

37 r 24; Possible explanation: I subtracted multiples of 26 from the dividend until the number left was less than 26. Then I added the partial quotients to find the quotient.

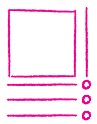
9. For numbers 9a–9c, choose Yes or No to indicate whether the statement is correct.

9a.	1,289 ÷ 22 is 58 r13.	● Yes	○ No
9b.	189 ÷ 17 is 11 r2.	● Yes	○ No
9c.	1,427 ÷ 13 is 190 r1.	○ Yes	● No

10. Divide. Draw a quick picture.

143 ÷ 11 = **13**

□ = 100 | = 10 o = 1



GO ON

Name _____

Chapter 2 Test
Page 4

11. Divide. Show your work.

27)2,356

```
   87 r7
27)2356
 −216
  196
 −189
    7
```

12. Choose the compatible numbers that will give the best estimate for 589 ÷ 58.

500	and	20
580		**58**
600		100

13. Quincy needs 322 yards of ribbon to decorate quilts for a craft fair. The ribbon comes in rolls of 15 yards.

Part A

How many rolls of ribbon should Quincy buy? Explain your answer.

22 rolls; Possible explanation: I need to divide 322 by 15. The answer is 21 r7. Since he can't buy a part of a roll, I need to add 1 to the quotient. So, the final answer is 22.

Part B

Alice needs twice as many yards of ribbon as Quincy. How many rolls of ribbon does Alice need? Explain your answer.

43 rolls; Possible explanation: Twice the length of 322 yards is 644 yards. If I divide 644 by 15, the answer is 42 r14. Alice needs to buy 43 rolls of ribbon.

GO ON

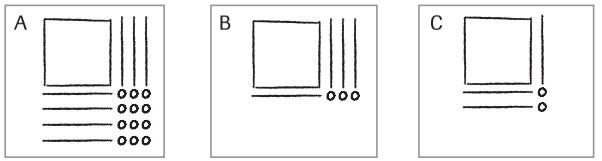
Name _____ **Chapter 2 Test Page 5**

14. Jeannette and Leslie are trying to solve this problem: A camp counselor has a list of 134 campers who signed up for art class. The counselor can place 8 students in each class. How many classes does the counselor need to have?

Jeannette says the counselor needs to have 16 classes. Leslie says the counselor needs to have 17 classes. Which student is correct? Explain your reasoning.

Leslie is correct. The quotient is 16 r6. The remainder of 6 represents 6 campers. These students must have a class to go to so you must form a new class.

15. Write the letter for each quick picture under the division problem it represents.



132 ÷ 12 = 11	143 ÷ 11 = 13	182 ÷ 14 = 13
C	B	A

16. Anthony has 115 books in his room. He is storing them in boxes. Each box holds 17 books. How many boxes does Anthony need?

7 boxes

GO ON

Name _____ **Chapter 2 Test Page 6**

17. Keesha needs to save $331. To earn money, she plans to babysit and charge $11 per hour. Write two estimates Keesha could use to determine how many hours she needs to babysit.

330 ÷ 10 = 33 and 320 ÷ 10 = 32

18. Stephen has a dog that weighs 5 times as much as Ian's dog. The total weight of both dogs is 72 pounds. How much does Stephen's dog weigh?

Draw a diagram to find the weight of Stephen's dog.

72 ÷ 6 = 12, so Stephen's dog weighs 60 pounds.

19. Claudia estimates the first digit in the quotient.

$$88\overline{)2{,}898}$$

Claudia's estimate is (too high / too low).

STOP

Name _____

Feature Presentation

1. Last Saturday, the MoviePlex theater sold 1,456 tickets. The theater sold 6 times as many regular-price tickets as it sold discount tickets.

   a. Earl says that the expression 1,456 ÷ 6 gives the number of discount tickets. Is Earl correct? If not, write the correct expression. Explain your answer.

Earl is not correct. Divide by 7.

1456 ÷ 7 =

208 R 0

7 | 1456

14↓

05↓

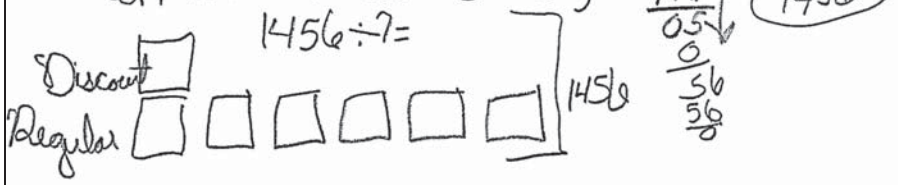
0

56

56

0

208 × 7 = 1456



Each rectangle is 208 tickets.

   b. Maya thinks that the theater sold 1,256 regular-price tickets. Jonah says that 1,248 regular-price tickets were sold. Do you agree with either person? Explain your reasoning.

I agree with both.

1248 ÷ 208 = 1456

Maya's:

209 R 2

6 | 1256

12↓↓

56

54

2

Jonah's:

208

6 | 1248

12↓↓

48

Maya can't be right. It's not a whole number.

   c. All movies until 4:00 P.M. require a discount ticket, and all movies after 4:00 P.M. require a regular-price ticket. Each theater at the MoviePlex seats 98 people. What is the least number of showings the theater could have shown after 4:00 P.M. last Saturday? Explain how you found your answer.

1456 − 208 = 1248

98 × 2 = 196

98 × 3 = 294

13

12 R 72

98 | 1248

98↓

1268

196

72

I divide number of tickets sold by number of seats.

Answer: 13 movies

208 × 6 = 1248

12 movies with 98 seats + 1 movie with 72 seats = 13

2. Last Saturday 16 people worked at the theater. Four people worked the morning shift and 12 people worked the evening shift. They earned a total of $1,032.00. If each worker earned the same amount, how much did one worker earn?

$64.50

16 × 5 = 80

16 × 7 = 112

16 × 9 = 144

16 × 6 = 96

16 × 4 = 64

16 × 1 = 16

16 × 2 = 32

16 × 3 = 48

64.50

16 | 1032.00

96↓

072

64↓

80

80

0

Sample Level 3 Response

Name _____

Feature Presentation

1. Last Saturday, the MoviePlex theater sold 1,456 tickets. The theater sold 6 times as many regular-price tickets as it sold discount tickets.

   a. Earl says that the expression 1,456 ÷ 6 gives the number of discount tickets. Is Earl correct? If not, write the correct expression. Explain your answer.

Earl is Not correct because if you divide it's not an even Number. Try 7⟌1456

242.8
6⟌1456.000
12
25
24
16
12
40
0
40

   b. Maya thinks that the theater sold 1,256 regular-price tickets. Jonah says that 1,248 regular-price tickets were sold. Do you agree with either person? Explain your reasoning.

Jonah is right. 1248 ÷ 6 = 208
1256 + 208 = 1456

   c. All movies until 4:00 P.M. require a discount ticket, and all movies after 4:00 P.M. require a regular-price ticket. Each theater at the MoviePlex seats 98 people. What is the least number of showings the theater could have shown after 4:00 P.M. last Saturday? Explain how you found your answer.

12.05
98⟌1256.000
98
276
196
800
0
800
784

198
× 2
1916
196
1392
+392
784

12 Movies
.05 is NOT a Movie

2. Last Saturday 16 people worked at the theater. Four people worked the morning shift and 12 people worked the evening shift. They earned a total of $1,032.00. If each worker earned the same amount, how much did one worker earn?

They each earned $64.50.

64.5
16⟌1032.000
96
72
64
80
80
0

316 × 6 = 96
416 × 7 = 112
116 × 3 = 48
316 × 5 = 80

Sample Level 2 Response

Name _____

Feature Presentation

1. Last Saturday, the MoviePlex theater sold 1,456 tickets. The theater sold 6 times as many regular-price tickets as it sold discount tickets.

   a. Earl says that the expression 1,456 ÷ 6 gives the number of discount tickets. Is Earl correct? If not, write the correct expression. Explain your answer.

Earl is incorrect, because if the theater sold 6 times as many tickets you would divide by 7 because there is one discount ticket and 6 regular, so the sum of them is 7.

   b. Maya thinks that the theater sold 1,256 regular-price tickets. Jonah says that 1,248 regular-price tickets were sold. Do you agree with either person? Explain your reasoning.

I don't agree with either person, because when I divided 1,456 by 7, I got an answer of 208 tickets.

208
7)1456
-14
056

   c. All movies until 4:00 P.M. require a discount ticket, and all movies after 4:00 P.M. require a regular-price ticket. Each theater at the MoviePlex seats 98 people. What is the least number of showings the theater could have shown after 4:00 P.M. last Saturday? Explain how you found your answer.

98)203
196
12

In order to find my answer, I divided the number of tickets, 203 by the number of people per movie, 98. I got an answer of 2, with a remainder of 12, so my final answer is 2.

2. Last Saturday 16 people worked at the theater. Four people worked the morning shift and 12 people worked the evening shift. They earned a total of $1,032.00. If each worker earned the same amount, how much did one worker earn?

$64.20

16)1032
96
072
64
8

Sample Level 1 Response

Name _____

Feature Presentation

1. Last Saturday, the MoviePlex theater sold 1,456 tickets. The theater sold 6 times as many regular-price tickets as it sold discount tickets.

   a. Earl says that the expression 1,456 ÷ 6 gives the number of discount tickets. Is Earl correct? If not, write the correct expression. Explain your answer.

   Earl is not Correct

   234
   6 | 1456
   12↓
   25
   18↓
   36
   36

   b. Maya thinks that the theater sold 1,256 regular-price tickets. Jonah says that 1,248 regular-price tickets were sold. Do you agree with either person? Explain your reasoning.

   Jonah is rit

   c. All movies until 4:00 P.M. require a discount ticket, and all movies after 4:00 P.M. require a regular-price ticket. Each theater at the MoviePlex seats 98 people. What is the least number of showings the theater could have shown after 4:00 P.M. last Saturday? Explain how you found your answer.

   2⁷08
   x 6
   1248

   14
   98 | 1248
   -98↓↓
   028

2. Last Saturday 16 people worked at the theater. Four people worked the morning shift and 12 people worked the evening shift. They earned a total of $1,032.00. If each worker earned the same amount, how much did one worker earn?

   18.02

   18.02
   16 | 1032
   -16↓↓
   072
   -64
   008

   18/16 1/2

Sample Level 0 Response

Name _____

Chapter 3 Test
Page 1

1. Jasmine kept a record of how many miles she ran each week during one month.

Week	Distance (in miles)
Week 1	4.754
Week 2	4.752
Week 3	5.19
Week 4	5.75

Order the weeks from the least amount of miles Jasmine ran to the greatest amount of miles Jasmine ran.

Week 2 | Week 1 | Week 3 | Week 4

Least: Week 2 — Greatest: Week 4

2. For numbers 2a–2c, select True or False for each statement.

2a. 1.682 inches rounded to the nearest whole number is 1 inch. ○ True ● False

2b. 1.682 inches rounded to the nearest tenth is 1.6 inches. ○ True ● False

2c. 1.682 inches rounded to the nearest hundredth is 1.68 inches. ● True ○ False

3. Students are selling hand-made magnets at the school craft fair. One magnet costs $0.30, 2 magnets cost $0.43, 3 magnets cost $0.56, and 4 magnets cost $0.69. If this pattern continues, how much will 6 magnets cost? Explain how you found your answer.

$0.95; Possible explanation: I looked for a pattern in the costs of the magnets. Since $0.43 − 0.30 = $0.13, $0.56 − $0.43 = $0.13, and so on, each additional magnet costs $0.13. The cost of 6 magnets will be $0.69 + $0.13 + $0.13 = $0.95.

GO ON

Name _____

Chapter 3 Test
Page 2

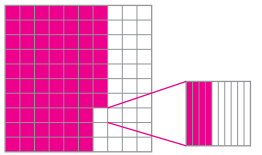
4. What is the value of the underlined digit? Mark all that apply.
0.2$\underline{8}$3

Ⓐ 0.8
● 0.08
Ⓒ $8 \times \frac{1}{10}$
● $8 \times \frac{1}{100}$
● eight hundredths

5. The fourth graders collected 1.25 pounds more aluminum cans than the fifth graders collected. Select the values that could represent how many pounds each grade collected. Mark all that apply.

Ⓐ fourth graders: 7.68 lb, fifth graders: 6.13 lb
● fourth graders: 6 lb, fifth graders: 4.75 lb
Ⓒ fourth graders: 4 lb, fifth graders: 2.65 lb
● fourth graders: 7.26 lb, fifth graders: 6.01 lb

6. Shade the model to show the decimal 0.674.



7. Katie worked on her science fair project for 2.5 hours on Tuesday and 1.75 hours on Friday. How many hours did she work on the project Tuesday and Friday combined? Use the digits on the tiles to solve the problem. Digits may be used more than once or not at all.

$$\begin{array}{r} 1.75 \\ +\ 2.50 \\ \hline 4.25 \end{array}$$

0	1
2	3
4	5
6	7
8	9

GO ON

Name _____

8. Marianna's kitten weighs 2.45 pounds, and Monica's kitten weighs 3.6 pounds. How much more does Monica's kitten weigh than Marianna's kitten? Explain how you can use a quick picture to solve the problem.

Monica's kitten weighs 1.15 pounds more than Marianna's kitten. Possible explanation: I can draw 3.6 using 3 squares for ones and 6 lines for tenths. I would regroup 1 of the 6 tenths as 10 hundredths. Then, I would subtract 5 hundredths from 10 hundredths. Then, I subtract 4 tenths from 5 tenths. Last, I would subtract 2 from 3.

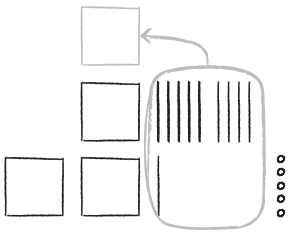
9. Luis found two bicycles he likes. The price of the first bicycle is $73.59. The price of the second bicycle is $98.50. Estimate the difference in the prices of the bicycles. **Possible estimate:**

$ **25**

10. Larry bought 4 lemonades for his friends. Each lemonade cost $1.28. Complete the table to show the prices of 2, 3, and 4 lemonades.

Number of Lemonades	Price
1	$1.28
2	**$2.56**
3	**$3.84**
4	**$5.12**

11. One caterpillar is 2.15 inches long. Another caterpillar is 1.9 inches long. Robert used a quick picture to find the combined lengths of the caterpillars. Does Robert's work make sense? Explain why or why not.



Yes. Possible explanation: He regrouped the 10 tenths as 1 one and added the 1 to the whole numbers.

GO ON

Name _____

12. Kevin and Yasuko are writing number patterns. Yasuko wrote the following sequence.

35.9, 34.7, 33.5, _____, 31.1

What is the unknown term in the sequence?

32.3

13. Flora bought 4.13 pounds of tuna salad and 2.7 pounds of chicken salad. For numbers 13a–13c, select Yes or No to indicate whether each statement is true.

13a. Rounded to the nearest whole number, Flora bought 4 pounds of tuna salad. ● Yes ○ No

13b. Rounded to the nearest whole number, Flora bought 2 pounds of chicken salad. ○ Yes ● No

13c. Rounded to the nearest tenth, Flora bought 4.1 pounds of tuna salad. ● Yes ○ No

14. The four highest scores at a diving meet were 9.08, 9.1, 9.15, and 9.06 points. Choose the numbers that make the statement true.

The lowest of these four scores was 9.08 / 9.1 / 9.15 / **(9.06)** points.

The highest of these four scores was 9.08 / 9.1 / **(9.15)** / 9.06 points.

GO ON

Name _____ **Chapter 3 Test Page 5**

15. Trudy is going to London next summer. Each week, she records the value of one British pound in U.S. dollars. The table shows the data she has recorded so far.

Week	Value of 1 British Pound (in U.S dollars)
1	1.598
2	1.616
3	1.634
4	1.623

For which two weeks was the value of 1 British pound the same when rounded to the nearest hundredth of a dollar?

Weeks 2 and 4

16. Mario has $15. He spends $6.25 on admission to the ice skating rink, $2.95 to rent skates, and $1.65 each for 2 hot chocolates. How much money does he have left?

$ **2.50**

17. Adrian's gerbil weighed 68.59 grams at the beginning of summer. During the summer, the gerbil gained 24.6 grams.

Part A

Estimate the weight of the gerbil at the end of the summer by rounding each value to the nearest whole number. Will your estimate be less than or greater than the actual weight? Explain your reasoning.

69 g + 25 g = 94 g; Possible explanation: The estimate will be greater than the actual weight of the gerbil because each value was rounded to a greater value.

Part B

What was the exact weight of the gerbil at the end of the summer? Was the estimate less than or greater than the exact value?

The exact weight of the gerbil was 93.19 grams. Possible answer: Yes, the estimate was greater than the actual weight.

GO ON

Name _____ **Chapter 3 Test Page 6**

18. Adele swam the length of the pool in 32.56 seconds. Alexandria swam the length of the pool in 29.4 seconds. How many seconds faster was Alexandria's time than Adele's time?

3.16 seconds

19. Choose the value that makes the statement true.

In the number 2.175, the value of the digit 2 is 2 [**ones**] / tenths / hundredths / thousandths, and

the value of the digit 7 is 7 ones / tenths / [**hundredths**] / thousandths.

20. Carmine and Hiram are solving the following word problem. Gina is training for a marathon. She ran 6.75 miles on Saturday. On Sunday, she ran 7.20 miles. How far did she run on Saturday and Sunday combined?

Carmine sets up his problem as 6.75 + 7.20. Hiram sets up his problem as 7.20 + 6.75. Who is correct? Explain your answer and solve the problem.

They are both correct; 13.95 miles; Possible explanation: The Commutative Property of Addition states addends can be added in any order and the answer will be the same.

21. 0.92 is 10 times as much as 0.0092 / [**0.092**] / 0.92 / 9.2 and $\frac{1}{10}$ of 0.0092 / 0.092 / 0.92 / [**9.2**].

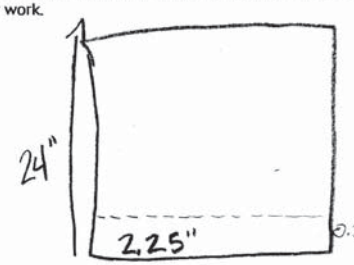
STOP

Name _____ **Chapter 3**

Behind the Scenes

1. Marnie buys a piece of fabric 24 inches long. There is some damage to the material, so she has to cut off 2.25 inches. Marnie has some lace border that she can sew onto the bottom of the material that would add 0.375 inches.

   a. What would be the length of the material with the lace added? Show your work. 22.125 inches



24.00
2.25
21.75
+ .375
22.125

   b. The craft Marnie wants to make must be at least 22.05 inches long. Is the material with lace border long enough? Explain your answer. Yes.

The number in length is 22 but the .125 is in the thousanths place. .05 means 5 hundredths, so the number is just 5. but even if you took the five off of .125 it would be in its hundredths but it would be 2.12 instead of .05.

22.125 > 22.05

2. The table shows the cost of different numbers of yards of the material that Marnie wants to buy.

Yards of Material	Cost
5	$23.40
6	$28.08
7	$32.76
8	$37.44

34
4.68
× 5
3.40

28.08
- 23.40
4.68

32.76
- 28.08
4.68

37.44
- 32.76
4.68

37.44
22.76
14.68

   Marnie needs 3 yards of the material. What is the cost? Explain how you found your answer.

22
4.68
× 3
14.04

The answer is $14.04. I got my answer by subtracting $23.40 from $28.08 and $28.08 from $32.76. That is how I got the answer to be $4.68, then I multiplied by 3.

2 2
4.68
× 3
14.04

4.68 | 14.68

3. Marnie buys 3 yards of the material. She has $14.30 in cash.

   a. Is this amount greater than or less than the cost of 3 yards of the material? Explain how you know.

It is greater than because 1 yard is $4.68, but if you multiply by 3 it is $14.04. It costs $14.04. Marnie has $14.30.

2 2
4.68
× 3
14.04

   b. How much more or less is the amount of cash than the cost of the material? Show your work.

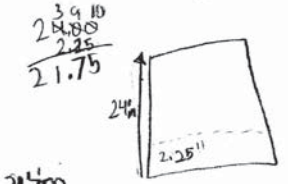
3
14.30
- 14.04
0.26

Name _____ **Chapter 3**

Behind the Scenes

1. Marnie buys a piece of fabric 24 inches long. There is some damage to the material, so she has to cut off 2.25 inches. Marnie has some lace border that she can sew onto the bottom of the material that would add 0.375 inches.

   a. What would be the length of the material with the lace added? Show your work.



   b. The craft Marnie wants to make must be at least 22.05 inches long. Is the material with lace border long enough? Explain your answer.

yes, because even though it is longer it doesn't have to be exact.

22.125 ≥ 22.050

2. The table shows the cost of different numbers of yards of the material that Marnie wants to buy.

Yards of Material	Cost
5	$23.40
6	$28.08
7	$32.76
8	$37.44

Marnie needs 3 yards of the material. What is the cost? Explain how you found your answer.

14.04

The cost of 1 would be $4.68.
So $4.68 x 3 would be $14.04
and you have your answer.

3. Marnie buys 3 yards of the material. She has $14.30 in cash.

   a. Is this amount greater than or less than the cost of 3 yards of the material? Explain how you know.

$14.04 < $14.30

$14.30 is greater.

   b. How much more or less is the amount of cash than the cost of the material? Show your work.

14.30
14.04
00.26

Name _____ Chapter 3

Behind the Scenes

1. Marnie buys a piece of fabric 24 inches long. There is some damage to the material, so she has to cut off 2.25 inches. Marnie has some lace border that she can sew onto the bottom of the material that would add 0.375 inches.

   a. What would be the length of the material with the lace added? Show your work.

3 9
24.00
- 2.25
21.750
0.375
22.125
22.125

   b. The craft Marnie wants to make must be at least 22.05 inches long. Is the material with lace border long enough? Explain your answer.

22.125
-22.050
00.075

Yes because it says at least that long 22.125 ✓ 22.05

2. The table shows the cost of different numbers of yards of the material that Marnie wants to buy.

Yards of Material	Cost
5	$23.40
6	$28.08
7	$32.76
8	$37.44

Marnie needs 3 yards of the material. What is the cost? Explain how you found your answer.

The Answer for 3 yards is 15.96

5.32
5.32
5.32
5.32
21.28

3
28.X
23.08
05.32
15.96

5.32
5.32

1 yard 5.32
2 yards 10.64
3 yards 15.96
4 yards 21.28

3. Marnie buys 3 yards of the material. She has $14.30 in cash.

   a. Is this amount greater than or less than the cost of 3 yards of the material? Explain how you know.

No $14.30 is not enough

15.96
14.30
01.66

   b. How much more or less is the amount of cash than the cost of the material? Show your work.

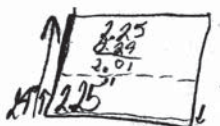
Underpay by 1.66

Name _____ Chapter 3

Behind the Scenes

1. Marnie buys a piece of fabric 24 inches long. There is some damage to the material, so she has to cut off 2.25 inches. Marnie has some lace border that she can sew onto the bottom of the material that would add 0.375 inches.

   a. What would be the length of the material with the lace added? Show your work.



2.25
0.24
2.010
+0.375
2.385

2.25
- 0.24
2.010
+0.375
3.275

   b. The craft Marnie wants to make must be at least 22.05 inches long. Is the material with lace border long enough? Explain your answer.

_____

_____

2.25
22.05

2. The table shows the cost of different numbers of yards of the material that Marnie wants to buy.

Yards of Material	Cost
5	$23.40
6	$28.08
7	$32.76
8	$37.44

Marnie needs 3 yards of the material. What is the cost? Explain how you found your answer.

23.76
05.00
29.76

37.44
-05.00
34.44

3. Marnie buys 3 yards of the material. She has $14.30 in cash.

   a. Is this amount greater than or less than the cost of 3 yards of the material? Explain how you know.

1 less

14
x 3
42

   b. How much more or less is the amount of cash than the cost of the material? Show your work.

less

Name _____

Chapter 4 Test
Page 1

1. Ganesh is making a scale model of the Space Needle in Seattle, Washington. The space needle is 605 feet tall. If the model is $\frac{1}{100}$ the actual size of the Space Needle, how tall is the model?

6.05 feet

2. For numbers 2a–2d, choose Yes or No to indicate whether the product is correct.

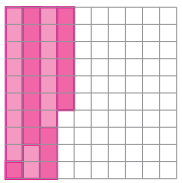
2a.	$0.48 \times 10 = 4.8$	● Yes	○ No
2b.	$0.76 \times 10 = 76$	○ Yes	● No
2c.	$0.01 \times 100 = 0.1$	○ Yes	● No
2d.	$0.50 \times 1{,}000 = 500$	● Yes	○ No

3. Madison is in charge of buying the hamburger meat for her company's annual picnic. She needs to buy enough meat to make 1,000 hamburgers. Each hamburger will weigh 0.25 pound. How many pounds of hamburger meat does Madison need to buy? Explain how to find the answer.

250 pounds; Possible explanation: multiply 1,000 by 0.25 by moving the decimal point 3 places to the right.

4. Kara is shading this model to show 0.09×4. Shade the correct amount of boxes that will show the product.

Kara should shade [4] groups of [9] small squares or [36] small squares.



GO ON

Name _____

Chapter 4 Test
Page 2

5. Rhianna is making a shelf to store her collection of rocks and shells. She is using 5 pieces of wood that are each 3.25 feet long. How much wood will Rhianna use to make the shelf?

16.25 feet

6. Which problems will have two decimal places in the product? Mark all that apply.

- ● A 3×0.65
- ○ B 4.8×2
- ○ C 8.1×10
- ● C 6.1×7.3
- ● E 7.22×10^0

7. Mari and Rob are making a poster for the science fair. They need to figure out how much a rock that weighs 7 pounds on Earth would weigh on Mars. They know that they can multiply the amount the rock weighs on Earth by 0.38 to find its weight on Mars. Circle the partial products Mari and Rob would need to add to find the product of 7 and 0.38. Mark all that apply.

- ○ A 0.7
- ● A 0.56
- ○ C 2.66
- ● C 2.1
- ○ E 0.38

8. Michael exchanged 1,000 U.S. dollars for the Croatian currency, which is called the Kuna. The exchange rate was 5.81 Kuna to $1.

Part A

How many Croatian Kuna did Michael get? Explain how you know.

Michael received 5,810 Kuna; Possible explanation: for every $1 that Michael exchanges he will get 5.81 Kuna. So, I multiplied 1,000 × 5.81 = 5,810.

Part B

Michael spent 4,976 Kuna on his trip. He exchanged the Kuna he had left for U.S. dollars. The exchange rate was 1 Kuna to $0.17. How many U.S. dollars did Michael get? Support your answer using specific information from the problem.

$141.78; Possible explanation: I subtracted 5,810 − 4,976 Kuna to find the number of Kuna left. If the exchange rate was 1 Kuna to $0.17, for every 1 Kuna Michael exchanged, he received $0.17. So, 834 × 0.17 = 141.78

GO ON

Name _____

Chapter 4 Test
Page 3

9. Paul works at a local grocery store. He worked 15 hours this week. Last week, he worked 2.5 times as many hours as he worked this week. How many hours did Paul work last week? Show your work.

```
  15
× 2.5
  75
+ 300
 37.5
```

Paul worked 37.5 hours.

Check students' work.

10. Jeremiah always rides his bike to and from work. The total length of a trip to and from work is 14.6 kilometers. Last month, Jeremiah worked 18 days. How many kilometers did he ride his bike to and from work last month? Show your work.

```
  14.6
×  18
 1,168
+ 1,460
 262.8
```

Jeremiah rode 262.8 kilometers.

Check students' work.

11. Write each number in a box to complete the number sentences. A number may be used more than once.

9.45 | 94.5 | 945

$27 \times 35 =$ [945]

$0.27 \times 35 =$ [9.45]

$27 \times 3.5 =$ [94.5]

$2.7 \times 35 =$ [94.5]

12. Mandy, Jeremy, and Lily went to an amusement park during their summer vacation. Mandy spent $16.25 at the amusement park. Jeremy spent $3.40 more than Mandy spent. Lily spent 2 times as much money as Jeremy spent. How much did Lily spend at the amusement park?

$ 39.30

GO ON

Name _____

Chapter 4 Test
Page 4

13. The cost of admission to the Flemington Aquarium is $11.50 for each senior citizen, $14.75 for each adult, and $7.25 for each child.

Part A

A family of 2 adults and 1 child plans to spend the day at the Flemington Aquarium. How much does admission for the family cost? Explain how you found your answer.

$36.75; Possible explanation: I will find the cost of the two adult tickets by multiplying $2 \times \$14.75 = \$29.50$. Then, I will add the cost of the child's ticket. $\$29.50 + \$7.25 = \$36.75$

Part B

Describe another way you could solve the problem.

Possible description: I could add the cost of the three tickets. $\$14.75 + \$14.75 + \$7.25 = \$36.75$

Part C

What if 2 more tickets for admission are purchased? If the two additional tickets cost $14.50, determine what type of tickets the family purchases. Explain how you can determine the answer without calculating.

Two additional children's tickets are purchased. Possible explanation: Since senior citizen tickets cost about $10 each, then 2 tickets would cost about $20, which is too much. Adult tickets cost about $15 each, so 2 adult tickets would cost about $30, which is too much. Children's tickets cost about $7, and 2 tickets would be about $14, which is correct.

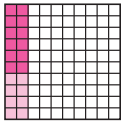
14. At a dry cleaning store, it costs $1.79 to clean a man's dress shirt and 6 times as much to clean a suit. Choose the answer that correctly completes the statement.

It would cost $8.95 / $10.74 / (**$12.53**) to dry clean one shirt and one suit.

GO ON

Name _____ **Chapter 4 Test Page 5**

15. Shade the model to show 0.6 × 0.2. Then find the product.



0.6 × 0.2 = **0.12**

16. Mr. O'Brien is paid $7.30 per hour for the first 40 hours he works in a week. He is paid 1.5 times that rate for each hour after that.

Last week, Mr. O'Brien worked 44 hours. He says he earned $321.20 last week. Do you agree? Support your answer.

I disagree. Possible explanation: the earnings for 40 hours are $7.30 × 40 = $292. $7.30 × 1.5 = $10.95, which is the rate for each hour over 40. $10.95 × 4 = $43.80. I added $43.80 + $292 = $335.80. $335.80 > $321.20.

17. Explain how an estimate helps you to place the decimal point when multiplying 3.7 × 5.1.

Possible explanation: The estimate, 4 × 5 = 20, helps me know that the decimal point should be placed so that the answer is close to 20.

18. During a track meet, Calvin drinks 0.6 liter of water. Melinda drinks 0.8 times as much water as Calvin during the track meet. How much water does Melinda drink during the track meet?

0.48 liter(s)

GO ON

Name _____ **Chapter 4 Test Page 6**

19. For numbers 19a–19d, select True or False for each statement.

19a.	The product of 1.3 and 2.1 is 2.73.	● True	○ False
19b.	The product of 4.8 and 0.4 is 19.2.	○ True	● False
19c.	The product of 0.08 and 0.7 is 5.6.	○ True	● False
19d.	The product of 0.21 and 1.8 is 0.378.	● True	○ False

20. A builder buys 16.1 acres of land to develop a new set of walking trails and baseball fields.

Part A

The builder plans to use 0.25 of the land for baseball fields. How many acres will the builder use for the baseball fields?

4.025 acres

Part B

The builder buys a second property that has 0.41 times as many acres as the first property. How many acres of land are in the second property? Show your work.

```
 16.1
×0.41
  161
+6440
 6.601
```

The second property has 6.601 acres of land.

21. The library is 0.9 mile from the school. The museum is 0.6 times as far from the school as the library. How far is the museum from the school? Write an equation to solve.

0.9 × 0.6 = 0.54 mile

22. Bruce is getting materials for a chemistry experiment. His teacher gives him a container that has 0.25 liter of a liquid in it. Bruce needs to use 0.4 of this liquid for the experiment. How much liquid will Bruce use?

0.1 liter

STOP

Name _____ **Chapter 4**

Earning a Bicycle

1. a. Malika charges $7.20 per hour for babysitting. She babysits 4 hours each week. She spends $10 per week and puts the rest of her earnings in a savings account. After 12 weeks, Malika's grandparents put a gift of money in her savings account that is equal to 0.25 times the amount she has saved from her babysitting earnings. How much money does Malika have in her savings account after the gift from her grandparents? Show your work.

7.20 × 4 = 28.80
28.80 − 10.00 = 18.80

18.80 × 12 = 225.60

225.60 × .25 = 56.40

225.60 + 56.40 = $282.00 in her account

b. Malika's father also offers to put a gift of money in her savings account. He gives an amount equal to 0.15 times the amount Malika saves. How much money does Malika have in her savings account after the gift from her grandparents and her father? Show your work.

225.60 × .15 = 33.84

225.60 + 56.40 + 33.84 = $315.84 in her account

2. Malika decides to use some of her savings to buy a bicycle. She compares the prices of 3 brands of bicycles: the RacerZ, the Speedmonster, and the Swiftee. The Speedmonster's price is $64.80. The RacerZ is $20 less than 2.5 times the price of the Speedmonster. The Swiftee is 1.09 times the price of the RacerZ. What are the prices of the RacerZ and the Swiftee? Show your work.

RacerZ is $142.00
Swiftee is $154.78

64.80 × 2.5 = 162.000
162.000 − 20.00 = $142.00

142 × 1.09 = 154.78

3. When Malika buys a bicycle, she must pay the bicycle's price plus tax. The city sales tax rate is 0.2 times the state sales tax rate. If the state sales tax rate is 0.08, what is the city tax rate? Explain how you found your answer.

.08 × .2 = .016

The city tax rate is .016.

I know the city tax rate is .2 (2 tenths) × the state sales tax rate.

2 tenths × .08

Name _____ **Chapter 4**

Earning a Bicycle

1. a. Malika charges $7.20 per hour for babysitting. She babysits 4 hours each week. She spends $10 per week and puts the rest of her earnings in a savings account. After 12 weeks, Malika's grandparents put a gift of money in her savings account that is equal to 0.25 times the amount she has saved from her babysitting earnings. How much money does Malika have in her savings account after the gift from her grandparents? Show your work.

$7.20/hr

4 hr/wk 10 per week

b. Malika's father also offers to put a gift of money in her savings account. He gives an amount equal to 0.15 times the amount Malika saves. How much money does Malika have in her savings account after the gift from her grandparents and her father? Show your work.

$315.84

2. Malika decides to use some of her savings to buy a bicycle. She compares the prices of 3 brands of bicycles: the RacerZ, the Speedmonster, and the Swiftee. The Speedmonster's price is $64.80. The RacerZ is $20 less than 2.5 times the price of the Speedmonster. The Swiftee is 1.09 times the price of the RacerZ. What are the prices of the RacerZ and the Swiftee? Show your work.

RacerZ $142.00

Speedracer 154.78

Speedmonster $64.80

15.478 or 154.78

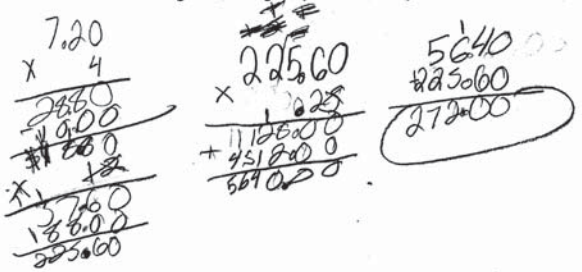
3. When Malika buys a bicycle, she must pay the bicycle's price plus tax. The city sales tax rate is 0.2 times the state sales tax rate. If the state sales tax rate is 0.08, what is the city tax rate? Explain how you found your answer.

.016

Name _____ **Chapter 4**

Earning a Bicycle

1. **a.** Malika charges $7.20 per hour for babysitting. She babysits 4 hours each week. She spends $10 per week and puts the rest of her earnings in a savings account. After 12 weeks, Malika's grandparents put a gift of money in her savings account that is equal to 0.25 times the amount she has saved from her babysitting earnings. How much money does Malika have in her savings account after the gift from her grandparents? Show your work.



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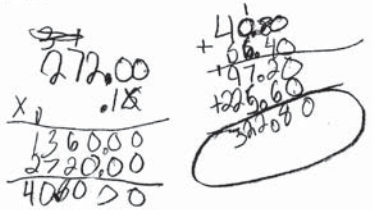

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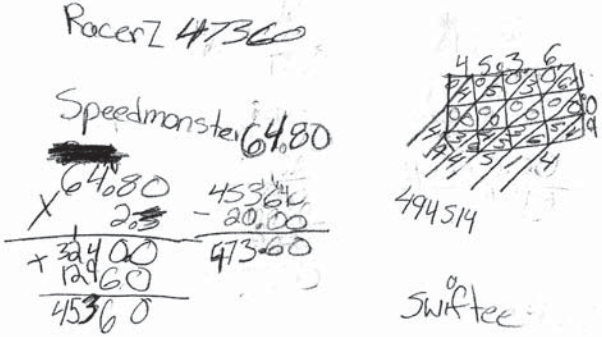


3. When Malika buys a bicycle, she must pay the bicycle's price plus tax. The city sales tax rate is 0.2 times the state sales tax rate. If the state sales tax rate is 0.08, what is the city tax rate? Explain how you found your answer.

Name _____ Chapter 4

Earning a Bicycle

1. a. Malika charges $7.20 per hour for babysitting. She babysits 4 hours each week. She spends $10 per week and puts the rest of her earnings in a savings account. After 12 weeks, Malika's grandparents put a gift of money in her savings account that is equal to 0.25 times the amount she has saved from her babysitting earnings. How much money does Malika have in her savings account after the gift from her grandparents? Show your work.

7.20¢ Per hour

$$\begin{array}{r} 7.20 \\ \times \quad 4 \\ \hline 28.80 \end{array}$$

$$\begin{array}{r} {\scriptstyle 1\ 1} \\ 28.80 \\ \times \quad 12 \\ \hline 2760 \end{array}$$

$$\begin{array}{r} {\scriptstyle 2\ 4} \\ 28.80 \\ \times \quad .25 \\ \hline 40.00 \end{array}$$

b. Malika's father also offers to put a gift of money in her savings account. He gives an amount equal to 0.15 times the amount Malika saves. How much money does Malika have in her savings account after the gift from her grandparents and her father? Show your work.

$$\begin{array}{r} 40.00 \\ \times \quad .15 \\ \hline 200.00 \end{array}$$

2. Malika decides to use some of her savings to buy a bicycle. She compares the prices of 3 brands of bicycles: the RacerZ, the Speedmonster, and the Swiftee. The Speedmonster's price is $64.80. The RacerZ is $20 less than 2.5 times the price of the Speedmonster. The Swiftee is 1.09 times the price of the RacerZ. What are the prices of the RacerZ and the Swiftee? Show your work.

Speedmonster 64.80

RacerZ
(64.80 × 2.5)

$$\begin{array}{r} {\scriptstyle 1}64.80 \\ \times \quad 2.50 \\ \hline 162.00 \end{array}$$

Swiffte

× 1.09

3. When Malika buys a bicycle, she must pay the bicycle's price plus tax. The city sales tax rate is 0.2 times the state sales tax rate. If the state sales tax rate is 0.08, what is the city tax rate? Explain how you found your answer.

(.08 * .2)

$$\begin{array}{r} .08 \\ \times \quad .2 \\ \hline 16 \end{array}$$

Name _____

Chapter 5 Test
Page 1

1. Lori is running in a marathon, which is 26.2 miles long. So far, she has run one-tenth of the marathon. How far has Lori run?

2.62 miles

2. Use the numbers on the tiles to write the value of each expression. You can use a tile more than once or not at all.

$48.6 \div 10^0$	=	48.6
$48.6 \div 10$	=	4.86
$48.6 \div 10^2$	=	0.486

. 0 4 6 8

3. Malcolm has 125 feet of yarn to make 100 bracelets. He uses the same amount of yarn to make each bracelet.

Part A

Write an expression that will find the amount of yarn Malcolm uses to make one bracelet.

125 ÷ 100

Part B

How much yarn will Malcolm use to make one bracelet?

1.25 feet

Part C

Suppose the total length of the yarn stayed the same, but instead of Malcolm making 100 bracelets, he only made 10 bracelets. How would the amount of yarn he uses to make each bracelet change? Explain.

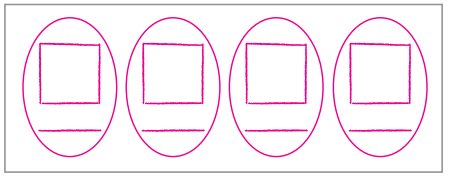
Malcolm would use 12.5 feet of yarn instead of 1.25 feet. Possible explanation: I divide the total length by 10 instead of 100.

GO ON

Name _____

Chapter 5 Test
Page 2

4. Draw a model to show 4.4 ÷ 4.



4.4 ÷ 4 = 1.1

5. Ashleigh rode her bicycle 26.5 miles in 4 hours. She rode the same number of miles each hour. Write a division sentence using compatible numbers to estimate the distance she rode in one hour.

Possible estimate: 28 ÷ 4 = 7

6. Ellen drove 357.3 miles. For each gallon of gas, the car can travel 21 miles. Select a reasonable estimate of the number of gallons of gas Ellen used. Mark all that apply.

- (A) 1.7 gallons
- (B) 1.8 gallons
- ● 17 gallons
- ● 18 gallons
- (E) 170 gallons

7. Landon bought a tray of plants for $8.15. There were 16 plants in the tray. If Landon only bought 1 plant, about how much would it have cost?

Possible estimate: about $0.50

8. Mia has a spool of ribbon that is 30.5 yards long. She will cut the ribbon into 5 equal pieces to make bows. What is the length of each piece of ribbon?

6.1 yards

GO ON

Name _____

9. Maggie is making some floral arrangements. The table shows the prices for one-half dozen of each type of flower.

Price for $\frac{1}{2}$ Dozen Flowers

Rose	$5.29
Carnation	$3.59
Tulip	$4.79

Part A

Maggie wants to buy 4 roses, 6 carnations, and 9 tulips. She estimates that she will spend about $14 on these flowers. Do you agree? Explain your answer.

Yes; Possible explanation: A half dozen flowers is 6 flowers. The carnations will cost $3.59. Using compatible numbers, 1 rose costs about $5.40 ÷ 6 = $0.90 and 4 × $0.90 = $3.60 and 1 tulip costs about $4.80 ÷ 6 = $0.80 and 9 × $0.80 = $7.20. I added $3.59, $3.60, and $7.20 to find the estimated cost of the flowers is $14.39.

Part B

Along with the flowers, Maggie bought 4 packages of balloons and 2 packages of plant food. The packages of balloons cost $3.59 each and the total sales tax was $1.34. The total amount she paid was $32.09, including sales tax. Explain a strategy she could use to find the cost of 1 package of plant food.

Possible explanation: I would make the following equation: cost of 4 packages of balloons + cost of flowers + cost of 2 packages of plant food + sales tax = Total spent. Then I would work backward to find the cost of 2 packages of plant food. Total spent − sales tax − cost of 4 packages of balloons − cost of flowers = cost of 2 packages of plant food. Then I would divide the cost of the 2 packages of plant food by 2 to find the cost of 1 package.

10. Grant is making small bags of dried fruit from a large bag of dried fruit that weighs 5.46 pounds. If he puts the same amount of dried fruit in each of 6 bags, how much will each bag weigh?

0.91 pound(s)

GO ON

Name _____

11. Divide.

$$6\overline{)3.24} \quad \text{quotient: } \mathbf{0.54}$$

12. Mr. Loretti is buying supplies for his classroom. The table shows the prices for the different items he buys.

Classroom Supplies

Item	Price
Pencils	$0.28 per ounce
Pens	$0.95
Erasers	$0.75
Notebooks	$0.99

Part A

Mr. Loretti spends $0.84 on pencils. How many ounces of pencils does he buy?

3 ounces of pencils

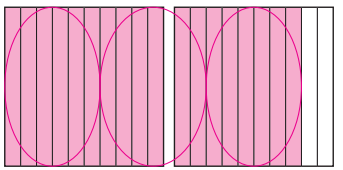
Part B

Mr. Loretti spends $4.83 on pens and notebooks. How many of each item does he buy? Explain how you found your answer.

3 pens and 2 notebooks; Possible explanation: The prices of the items are close so I estimated $4.83 ÷ $0.95: 5 ÷ 1 = 5. Then I used guess and check to find a total of 5 items that had a total cost of $4.83.

13. Shade the model and circle to show 1.8 ÷ 0.6.

1.8 ÷ 0.6 = **3**



GO ON

Name _____ Chapter 5 Test Page 5

14. Leilani bought tomatoes that cost $0.84 per pound. She paid $3.36 for the tomatoes. How many pounds of tomatoes did she buy? Show your work.

$0.84 \times 100 = 84$

$3.36 \times 100 = 336$

$84\overline{)336}$ = 4 pounds

-336

0

15. Carly has a piece of yarn that is 7.2 yards long. She needs to cut the yarn into pieces that each measure 0.3 yard long. How many pieces of yarn can be cut that are 0.3 yard long?

24 pieces

16. Latisha hiked along a trail that was 9.66 miles long. She hiked 4.2 miles every hour. How many hours did it take Latisha to finish hiking the trail?

2.3 hours

17. For numbers 17a–17c choose Yes or No to indicate whether a zero must be written in the dividend to find the quotient.

17a.	$2.5 \div 0.5$	○ Yes	● No
17b.	$1.8 \div 0.02$	● Yes	○ No
17c.	$3.3 \div 0.4$	● Yes	○ No

18. Tony collected 16.2 pounds of pecans from the trees on his farm. He will give the same weight of pecans to each of 12 friends. How many pounds of pecans will each friend receive?

1.35 pounds

GO ON

Name _____ Chapter 5 Test Page 6

19. Josh buys cucumbers that cost $0.62 per pound. He pays $2.79 for the cucumbers.

Part A

Josh estimates he bought 5 pounds of cucumbers. Is Josh's estimate reasonable? Explain.

Yes; Possible explanation: $0.62 is close to 6 tenths and $2.79 is close to 30 tenths. 30 tenths divided by 6 tenths is 5, so 5 pounds of cucumbers is reasonable.

Part B

How many pounds of cucumbers did Josh actually buy? Show your work.

$0.62 \times 100 = 62$

$2.79 \times 100 = 279$

$62\overline{)279.0}$ = 4.5 pounds

-248

310

-310

0

20. Who drove the fastest? Select the correct answer.

Ⓐ Trevor drove 202 miles in 4 hours.

● Maggie drove 330 miles in 6 hours.

Ⓒ Nev drove 412 miles in 8 hours.

Ⓓ Juanita drove 261 miles in 5 hours.

21. Reshawn is buying 3 books in a trilogy set for $24.81. He will save $6.69 by buying the trilogy set instead of buying individual books. If each book costs the same amount, how much does each of the 3 books cost when purchased individually? Show your work.

$10.50; Possible work:
$24.81 + $6.69 = $31.50
$31.50 ÷ 3 = $10.50

22. Corey spent $17.00, including sales tax, on 2 sandwiches and 3 drinks. The sandwiches cost $5.25 each and the total sales tax was $0.92. Fill in the table with the correct prices.

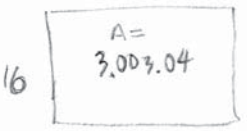
Item	Cost
Cost of each sandwich	$5.25
Cost of each drink	$1.86
Cost of sales tax	$0.92

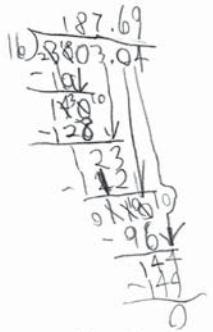
STOP

Name _____ **Chapter 5**

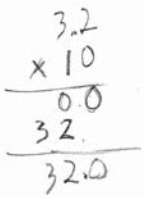
Prize Painting

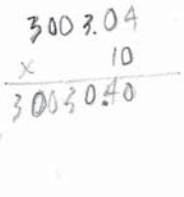
1. Carmen enters a painting in an art contest. The contest rules say that all paintings must be rectangular, with an area no greater than 3,003.04 cm^2. Carmen's painting is 16 cm wide. What is the greatest length the painting can have and still have an area within the contest rules? (Hint: A rectangle's area is the product of the width and the length.) 187.69 cm

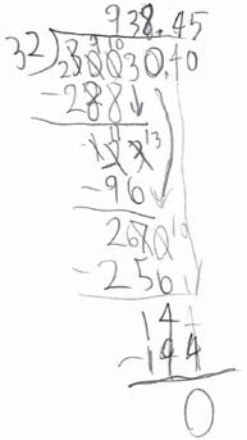




2. Carmen's painting wins second prize in the contest. The painting that wins first prize has an area that is 3.2 times less than the greatest area the rules allow. What is the area of the first-prize painting? Show your work. 938.45cm2

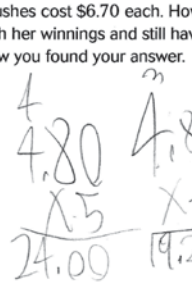


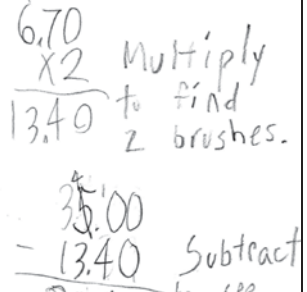


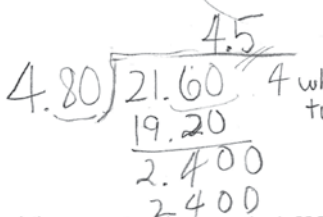


3. Carmen wins $35 in the contest. Tubes of her favorite brand of paint cost $4.80 each. Paint brushes cost $6.70 each. How many tubes of paint can Carmen buy with her winnings and still have enough left for 2 brushes? Explain how you found your answer.

4 tubes of Paint

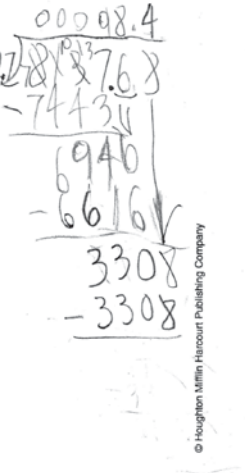


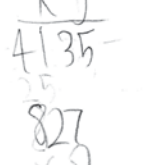


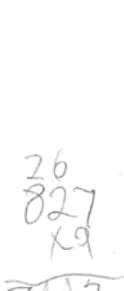


4. Carmen begins her next painting on a rectangular canvas that is 82.7 cm long and has an area of 8,137.68 cm^2. Will the painting fit in a frame with an opening that is 82.7 cm long and 95 cm wide? Explain.

No it is too small. The painting is to wide.





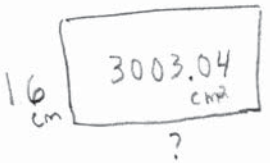


Name _____ **Chapter 5**

Prize Painting

1. Carmen enters a painting in an art contest. The contest rules say that all paintings must be rectangular, with an area no greater than 3,003.04 cm^2. Carmen's painting is 16 cm wide. What is the greatest length the painting can have and still have an area within the contest rules? (Hint: A rectangle's area is the product of the width and the length.)

187.69 cm^2



187.69
16 | 3003.04
-16
140
-128
123
-112
110
-96
144
-144
0

2. Carmen's painting wins second prize in the contest. The painting that wins first prize has an area that is 3.2 times less than the greatest area the rules allow. What is the area of the first-prize painting? Show your work.

938.4
3.2 | 3003.04
-288
123
-96
270
-256
144
-128
16

32 × 9 = 288

32 × 8 = 256

123 − 96 = 32

32 × 4 = 128

3. Carmen wins $35 in the contest. Tubes of her favorite brand of paint cost $4.80 each. Paint brushes cost $6.70 each. How many tubes of paint can Carmen buy with her winnings and still have enough left for 2 brushes? Explain how you found your answer.

6.70
6.70
13.40

35.00
−13.40
21.60

4.5
4.80 | 21.600
19.20
2.400

4.5 but cant buy .5 tube so 4 tubes

480 × 5 = 2400

480 × 4 = 19.20

4. Carmen begins her next painting on a rectangular canvas that is 82.7 cm long and has an area of 8,137.68 cm^2. Will the painting fit in a frame with an opening that is 82.7 cm long and 95 cm wide? Explain.

No because it is to big

98.3
827 | 8137.6.8
−7443
6946
−6616
3308
−2481
827

827 × 9 = 7443

827 × 3 = 2481

827 × 5 = 3235

827 × 4 = 3208

827 × 8 = 6616

Name _____ **Chapter 5**

Prize Painting

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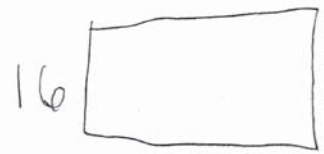

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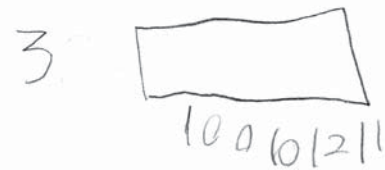

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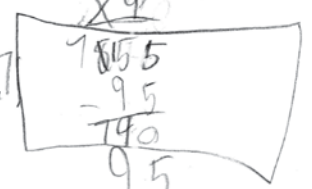
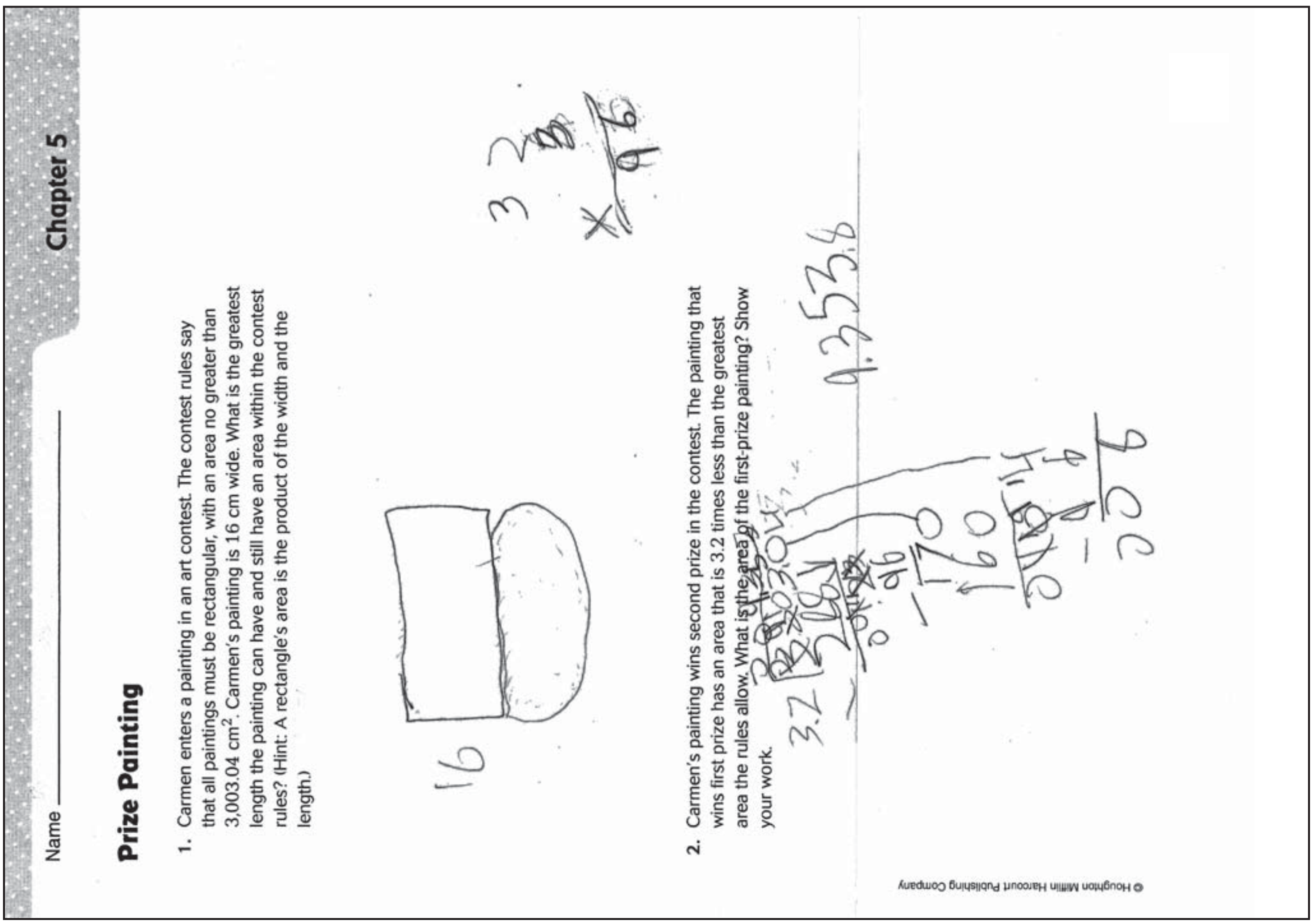
I multiplied $6.70 x 2 and $4.80 x 3 then added

4. Carmen begins her next painting on a rectangular canvas that is 82.7 cm long and has an area of 8,137.68 cm^2. Will the painting fit in a frame with an opening that is 82.7 cm long and 95 cm wide? Explain.

NO





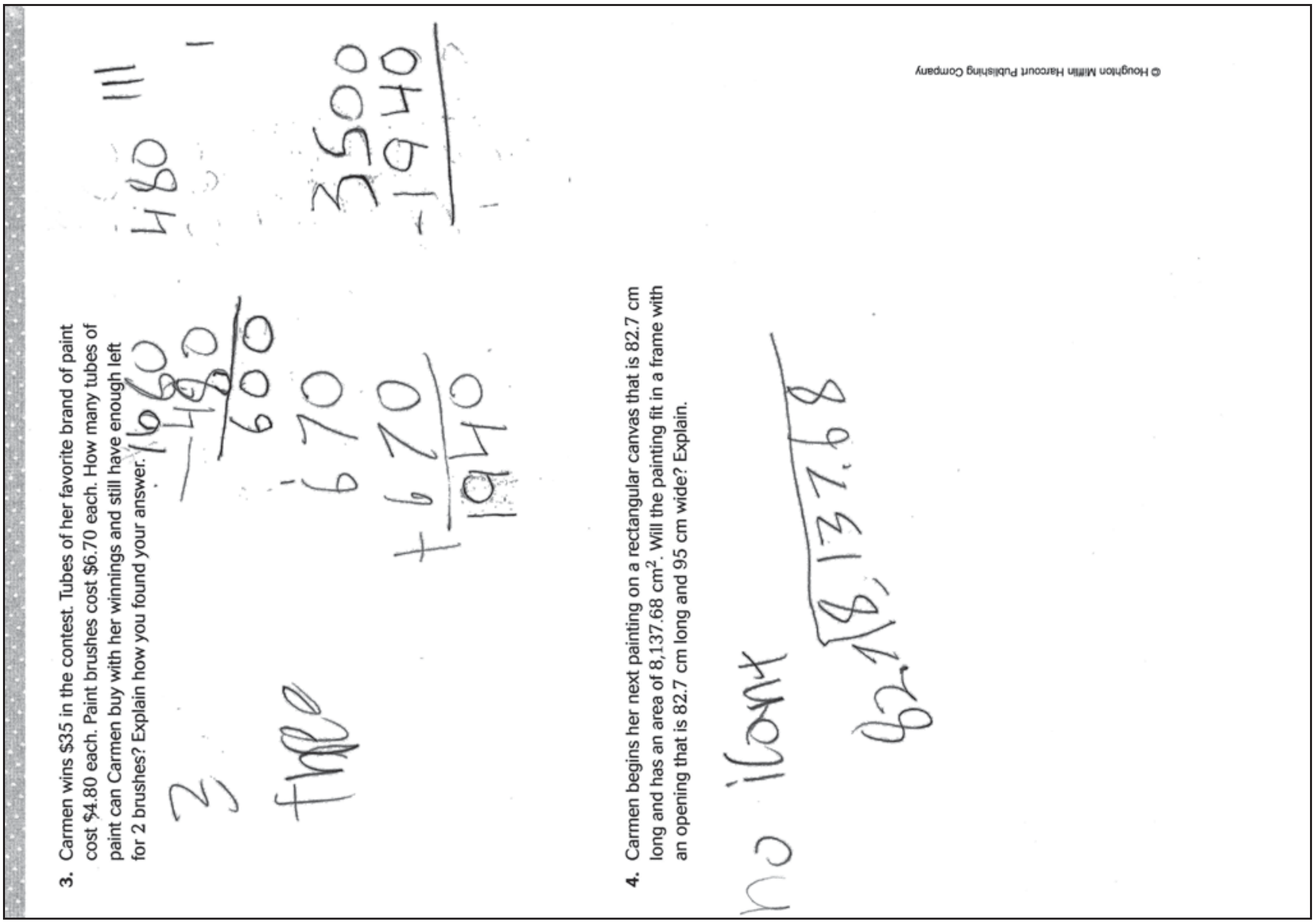
Name ______

Chapter 5

Prize Painting

1. Carmen enters a painting in an art contest. The contest rules say that all paintings must be rectangular, with an area no greater than 3,003.04 cm^2. Carmen's painting is 16 cm wide. What is the greatest length the painting can have and still have an area within the contest rules? (Hint: A rectangle's area is the product of the width and the length.)

2. Carmen's painting wins second prize in the contest. The painting that wins first prize has an area that is 3.2 times less than the greatest area the rules allow. What is the area of the first-prize painting? Show your work.



3. Carmen wins $35 in the contest. Tubes of her favorite brand of paint cost $4.80 each. Paint brushes cost $6.70 each. How many tubes of paint can Carmen buy with her winnings and still have enough left for 2 brushes? Explain how you found your answer.

4. Carmen begins her next painting on a rectangular canvas that is 82.7 cm long and has an area of 8,137.68 cm^2. Will the painting fit in a frame with an opening that is 82.7 cm long and 95 cm wide? Explain.

Name _____ **CRITICAL AREA** Fluency with Whole Numbers and Decimals

Party Planning

Tanisha is planning a backyard party. She will serve hamburgers, potato salad, strawberry shortcake, and lemonade. Including Tanisha, 28 people will be at the party. Use this information to help Tanisha plan her party. Show your work. Round all dollar amounts to the nearest cent (nearest hundredth).

1. **a.** Tanisha's potato salad recipe calls for 3 pounds of potatoes. She decides to make 3.5 times her regular recipe. How many pounds of potatoes should Tanisha buy? Show your work.

3.5 × 3 = 10.5

Tanisha should buy 10.5 pounds of potatoes.

b. Potatoes are sold in 2.25-pound bags. How many whole bags must Tanisha buy in order to have enough potatoes?

2.25 × 4 = 9.00

2.25 × 5 = 11.25

2.25, 4.50, 6.75, 9.00, 11.25

Tahisha must buy 5 whole bags.

c. Potatoes cost $0.62 per pound. What is the total cost of the bags of potatoes Tanisha needs to buy?

11.25 × 0.62 = 6.975 → 6.98

The bags of potatoes cost a total of $ 6.98

2. **a.** Tanisha uses 15.12 pounds of ground beef to make 42 same-size hamburgers. How many pounds of ground beef are in each hamburger?

15.12 ÷ 42 = 0.36

42 × 3 = 126

42 × 6 = 252

There are 0.36 pounds of ground beef in each hamburger.

b. If all 28 people at the party get one hamburger, how many people will be able to get second helpings?

42 − 28 = 14

14 people will get second helpings.

3. Tanisha spends $20.90 on 9.5 quarts of strawberries for the shortcake. What is the price of each quart of strawberries?

$20.90 ÷ 9.5 = $2.20

The price for each quart of strawberries is $2.20

4. Tanisha expects that each person will drink two 8-ounce glasses of lemonade at the party. Write an expression to show the words. How many ounces of lemonade does Tanisha need to make?

28 x 16
168
+280
448

28 people x 2 glasses x 8 ounces
28 x 2 x 8
28 x 16

448 ounces of lemonade

5. Tanisha's mother buys 38 lemons. They know it takes 8 lemons to make 80 ounces of lemonade. Does Tanisha need more lemons? If not, how many extra lemons does she have? If so, how many more lemons does she need? Explain how you found your answer.

I know 8 lemons make 80 ounces so 8 x 10
She has:
38
x10
380 oz of lemonade

448 → needs
−380 → has
068

6.8 = 7
10 | 68.0
−60
80

she dosen't have enough lemons for the party. She needs 7 more lemons. she can't buy 6.8 lemons.

6. Tanisha makes a budget to keep track of her spending on party food. Fill in the blanks in the budget table. Some of the answers will come from questions 1–5.

Item	Amount	Cost of 1 Unit	Total Cost
Potatoes	11.25 lbs	$0.62/lb	$ 6.98
Hamburger	15.12 lbs	$2.47/lb	$ 37.35
Strawberries	9.5 qts	$ 2.20 /qt	$20.90
Lemons	45	$0.12/lemon	$ 5.40

15.12
x 2.47
10584
6048
3024
37.3464

45
x.12
90
45
5.40

a. What is the total cost of food for the party?

6.98
37.35
20.90
+ 5.40
$70.63

b. If you split the cost of food evenly among the 28 people, what is the cost of food for 1 person?

28 | 70.630
−56
140
−140
63
−56
70
−56
14

$2.52 a person

428
x 5
140

c. Tanisha's party food budget is $75.00. How many more people can she afford to invite to the party? Explain your reasoning.

1, because all of the food cost $70.63 she can only invite 1 more. She needs $5.04 to invite 2 people.

75.00
−70.63
4.37

3437
−2.52
1.85 not enough

2.52
x 2
5.04

Name _____ CRITICAL AREA Fluency with Whole Numbers and Decimals

Party Planning

Tanisha is planning a backyard party. She will serve hamburgers, potato salad, strawberry shortcake, and lemonade. Including Tanisha, 28 people will be at the party. Use this information to help Tanisha plan her party. Show your work. Round all dollar amounts to the nearest cent (nearest hundredth).

1. **a.** Tanisha's potato salad recipe calls for 3 pounds of potatoes. She decides to make 3.5 times her regular recipe. How many pounds of potatoes should Tanisha buy? Show your work.

$$\begin{array}{r} 3.5 \\ \times\ 3 \\ \hline 10.5 \end{array}$$

Tanisha should buy 10.5 pounds of potatoes.

b. Potatoes are sold in 2.25-pound bags. How many whole bags must Tanisha buy in order to have enough potatoes?

$$\begin{array}{r} 2.25 \\ \times\ 4 \\ \hline 9.00 \end{array} \qquad \begin{array}{r} 2.25 \\ \times\ 5 \\ \hline 11.25 \end{array}$$

Tahisha must buy 5 whole bags.

c. Potatoes cost $0.62 per pound. What is the total cost of the bags of potatoes Tanisha needs to buy?

$$\begin{array}{r} 11.25 \\ \times\ 0.62 \\ \hline 22.50 \\ 675.00 \\ \hline 6.975 \end{array}$$

The bags of potatoes cost a total of $ 6.975

2. **a.** Tanisha uses 15.12 pounds of ground beef to make 42 same-size hamburgers. How many pounds of ground beef are in each hamburger?

$$\begin{array}{r} 0.37 \\ 42\overline{)15.12} \\ -120 \\ \hline 312 \\ -294 \\ \hline 18 \end{array}$$

$$\begin{array}{r} 42 \\ \times\ 3 \\ \hline 126 \end{array} \qquad \begin{array}{r} 42 \\ \times\ 7 \\ \hline 294 \end{array}$$

There are 0.18 pounds of ground beef in each hamburger.

b. If all 28 people at the party get one hamburger, how many people will be able to get second helpings?

$$\begin{array}{r} 42 \\ -28 \\ \hline 14 \end{array}$$

14 people will get second helpings.

3. Tanisha spends $20.90 on 9.5 quarts of strawberries for the shortcake. What is the price of each quart of strawberries?

$$\begin{array}{r} \$2.20 \\ 9.5\overline{)\$20.90} \\ -190 \\ \hline 190 \\ -190 \\ \hline 0 \end{array}$$

The price for each quart of strawberries is $2.20

4. Tanisha expects that each person will drink two 8-ounce glasses of lemonade at the party. Write an expression to show the words. How many ounces of lemonade does Tanisha need to make?

28 × (2×8) = X

28 × 16 = 448

448 ounces

5. Tanisha's mother buys 38 lemons. They know it takes 8 lemons to make 80 ounces of lemonade. Does Tanisha need more lemons? If not, how many extra lemons does she have? If so, how many more lemons does she need? Explain how you found your answer.

8 × __ = 80

38 × 10 = 380 of lemonade

She doesn't have enough lemonade.

380 − 348 = 68

We are going to need 7 lemons because I divided 68 and 10 and so I got 6 Ramainder 8. And then I rounded up.

10 | 68 → 6 R8

6. Tanisha makes a budget to keep track of her spending on party food. Fill in the blanks in the budget table. Some of the answers will come from questions 1–5.

Item	Amount	Cost of 1 Unit	Total Cost
Potatoes	11.25 lbs	$0.62/lb	$6.97.50
Hamburger	15.12 lbs	$2.47/lb	$37.346
Strawberries	9.5 qts	$2.20/qt	$20.90
Lemons	45	$0.12/lemon	$ 5.40

15.12 × 2.47 = 37.346

9.5 × 2.20 = 20.90

45 × 0.12 = 5.40

a. What is the total cost of food for the party?

6.97.50 + 37.346 + 20.90 + 5.40 = 70.6210 = $70.62

b. If you split the cost of food evenly among the 28 people, what is the cost of food for 1 person?

70.62 ÷ 28 = $2.52

c. Tanisha's party food budget is $75.00. How many more people can she afford to invite to the party? Explain your reasoning.

She can invite one because she has spent $70.62 already.

$75.00 − $70.62 = $4.38

Name _____ CRITICAL AREA Fluency with Whole Numbers and Decimals

Party Planning

Tanisha is planning a backyard party. She will serve hamburgers, potato salad, strawberry shortcake, and lemonade. Including Tanisha, 28 people will be at the party. Use this information to help Tanisha plan her party. Show your work. Round all dollar amounts to the nearest cent (nearest hundredth).

1. **a.** Tanisha's potato salad recipe calls for 3 pounds of potatoes. She decides to make 3.5 times her regular recipe. How many pounds of potatoes should Tanisha buy? Show your work.

3.5
3
× 10.5

Tanisha should buy 10.5 pounds of potatoes.

b. Potatoes are sold in 2.25-pound bags. How many whole bags must Tanisha buy in order to have enough potatoes?

2.25 | 10.5 — 4
−2.25

Tahisha must buy 4 whole bags.

c. Potatoes cost $0.62 per pound. What is the total cost of the bags of potatoes Tanisha needs to buy?

0.62
× 4
2.48

The bags of potatoes cost a total of $ 2.48

2. **a.** Tanisha uses 15.12 pounds of ground beef to make 42 same-size hamburgers. How many pounds of ground beef are in each hamburger?

42
× 3
126

42 | 15.12 — 0.36
−126
252
−252
0

There are 0.36 pounds of ground beef in each hamburger.

b. If all 28 people at the party get one hamburger, how many people will be able to get second helpings?

42
−28
14

14 people will get second helpings.

3. Tanisha spends $20.90 on 9.5 quarts of strawberries for the shortcake. What is the price of each quart of strawberries?

2090
× 95
10450
18810
198550

The price for each quart of strawberries is $1.98

4. Tanisha expects that each person will drink two 8-ounce glasses of lemonade at the party. Write an expression to show the words. How many ounces of lemonade does Tanisha need to make?

28 × 8 = 224
224 × 2 = 448
448 ounces

5. Tanisha's mother buys 38 lemons. They know it takes 8 lemons to make 80 ounces of lemonade. Does Tanisha need more lemons? If not, how many extra lemons does she have? If so, how many more lemons does she need? Explain how you found your answer.

8 × 6 = 48
38 − 32 = 6

Shes got lots extra. She only needs 4 so shes got 34 extra.

6. Tanisha makes a budget to keep track of her spending on party food. Fill in the blanks in the budget table. Some of the answers will come from questions 1–5.

Item	Amount	Cost of 1 Unit	Total Cost
Potatoes	11.25 lbs	$0.62/lb	$ 6.97
Hamburger	15.12 lbs	$2.47/lb	$ 37.34
Strawberries	9.5 qts	$ 2.2 /qt	$20.90
Lemons	38	$0.12/lemon	$ 4.56

11.25 × .62 = 6.975 → 6.97
15.12 × 2.47 = 37.3464 → 37.34
2.2 × 9.5 = 20.90
38 × .12 = 4.56

a. What is the total cost of food for the party?

16.97 + 37.34 + 20.90 + 4.56 = 79.77 → $68.77

b. If you split the cost of food evenly among the 28 people, what is the cost of food for 1 person?

28 × 1 = 28
28 × 2 = 56
28 × 3 = 84
28 × 4 = 112
28 × 5 = 140
$68.77 ÷ 28 = $2.45 R17
157 − 140 = 17

c. Tanisha's party food budget is $75.00. How many more people can she afford to invite to the party? Explain your reasoning.

$75.00 − $68.77 = $6.23
6.23 ÷ 2.45 = 2 R1.35
2 more People
2.45 × 2 = 4.90
2.45 × 3 = 7.35

Name _____ CRITICAL AREA Fluency with Whole Numbers and Decimals

Party Planning

Tanisha is planning a backyard party. She will serve hamburgers, potato salad, strawberry shortcake, and lemonade. Including Tanisha, 28 people will be at the party. Use this information to help Tanisha plan her party. Show your work. Round all dollar amounts to the nearest cent (nearest hundredth).

1. **a.** Tanisha's potato salad recipe calls for 3 pounds of potatoes. She decides to make 3.5 times her regular recipe. How many pounds of potatoes should Tanisha buy? Show your work.

3.5 × 3 = 15.15

Tanisha should buy 15.15 pounds of potatoes.

b. Potatoes are sold in 2.25-pound bags. How many whole bags must Tanisha buy in order to have enough potatoes?

52

Tahisha must buy 52 whole bags.

c. Potatoes cost $0.62 per pound. What is the total cost of the bags of potatoes Tanisha needs to buy?

The bags of potatoes cost a total of $ 11.25.

2. **a.** Tanisha uses 15.12 pounds of ground beef to make 42 same-size hamburgers. How many pounds of ground beef are in each hamburger?

15.12 + 42 = 57.12

There are 57.12 pounds of ground beef in each hamburger.

b. If all 28 people at the party get one hamburger, how many people will be able to get second helpings?

57.12 − 28 = 9.12

9.12 people will get second helpings.

3. Tanisha spends $20.90 on 9.5 quarts of strawberries for the shortcake. What is the price of each quart of strawberries?

20.90 × 95 = 1985

The price for each quart of strawberries is 30635.

4. Tanisha expects that each person will drink two 8-ounce glasses of lemonade at the party. Write an expression to show the words. How many ounces of lemonade does Tanisha need to make?

2 x 8 = 16 glasses

5. Tanisha's mother buys 38 lemons. They know it takes 8 lemons to make 80 ounces of lemonade. Does Tanisha need more lemons? If not, how many extra lemons does she have? If so, how many more lemons does she need? Explain how you found your answer.

I multiplyed

38 x 8 = 304

6. Tanisha makes a budget to keep track of her spending on party food. Fill in the blanks in the budget table. Some of the answers will come from questions 1–5.

Item	Amount	Cost of 1 Unit	Total Cost
Potatoes	11.25 lbs	$0.62/lb	$ 20
Hamburger	15.12 lbs	$2.47/lb	$ 17.58
Strawberries	9.5 qts	$ 2.29 /qt	$20.90
Lemons	38	$0.12/lemon	$ 5.32

17.58 + 20.90 + 5.32 = 63.80

a. What is the total cost of food for the party?

63.80

b. If you split the cost of food evenly among the 28 people, what is the cost of food for 1 person?

28 x 2 = 56

2.20
28) 63.00
-56
70
-56
14

c. Tanisha's party food budget is $75.00. How many more people can she afford to invite to the party? Explain your reasoning.

25 people

Name _____

Chapter 6 Test
Page 1

1. Ursula mixed $3\frac{1}{8}$ cups of dry ingredients with $1\frac{2}{5}$ cups of liquid ingredients. For numbers 1a–1c, estimate the amount of ingredients Ursula used. Choose the correct benchmarks and sum.

1a. Ursula used about [2, **3**, $3\frac{1}{2}$, 4] cups of dry ingredients.

1b. Ursula used about [1, **$1\frac{1}{2}$**, $1\frac{3}{4}$, 2] cup(s) of liquid ingredients.

1c. Ursula used about [3, $3\frac{1}{2}$, 4, **$4\frac{1}{2}$**] cups of ingredients.

2. It takes Evan $6\frac{3}{4}$ hours to mow 3 lawns. It takes him $2\frac{1}{3}$ hours to mow Mr. Gal's lawn and $1\frac{3}{4}$ hours to mow Ms. Lee's lawn. How many hours does it take Evan to mow the third lawn? Use the numbers and symbols to write an equation that represents the problem. Then solve the equation. Symbols may be used more than once or not at all.

[$6\frac{3}{4}$] [$2\frac{1}{3}$] [$1\frac{3}{4}$] [X] [=] [+]

Possible answer: $6\frac{3}{4} = 2\frac{1}{3} + 1\frac{3}{4} + X$

Time needed to mow the third lawn: $2\frac{2}{3}$ hours

GO ON

Name _____

Chapter 6 Test
Page 2

3. Samuel walked in the Labor Day parade. He walked $3\frac{1}{8}$ miles along the parade route and $2\frac{5}{6}$ miles home. For numbers 3a–3c, fill in each blank.

3a. Rounded to the closest benchmark, Samuel walked about 3 miles on the parade route.

3b. Rounded to the closest benchmark, Samuel walked about 3 miles home.

3c. Samuel walked about 6 miles in all.

4. Regina bought fruit for her family. She bought $3\frac{1}{2}$ pounds of oranges and $4\frac{3}{4}$ pounds of peaches. If she used all but $1\frac{3}{8}$ pounds of the fruit in a fruit salad, how much fruit was in the fruit salad? Use the numbers and symbols to write an equation that represents the problem. Then solve the equation. Symbols may be used more than once or not at all.

[$3\frac{1}{2}$] [$4\frac{3}{4}$] [$1\frac{3}{8}$] [×] [+] [÷] [=]

$3\frac{1}{2} + 4\frac{3}{4} = 1\frac{3}{8} + x$

Weight of the fruit in the fruit salad $6\frac{7}{8}$ pounds

5. Write $\frac{2}{3}$ and $\frac{3}{4}$ as equivalent fractions using a common denominator. **Possible answers:**

$\frac{8}{12}$ and $\frac{9}{12}$

6. Ken bought $3\frac{3}{4}$ pounds of apples at the farmers' market. Abby bought $2\frac{1}{8}$ pounds of apples. How many pounds of apples did Ken and Abby buy?

$5\frac{7}{8}$ pounds

GO ON

Name _____ **Chapter 6 Test Page 3**

7. The shaded part of the diagram shows the amount of time Antonio has left from one hour of basketball practice. He will use $\frac{2}{5}$ hour practicing his shooting and the rest of the time practicing dribbling. He wants to determine how much time he will have to practice dribbling. For numbers 7a–7c, select True or False for each statement.

7a. To determine how much time he will have to practice dribbling, Antonio must find $1 - \frac{2}{5}$. ○ True ● False

7b. The fractions $\frac{2}{5}$ and $\frac{4}{10}$ are equivalent. ● True ○ False

7c. Antonio will have $\frac{2}{5}$ hour to practice dribbling. ● True ○ False

8. For numbers 8a–8c, tell whether each expression was rewritten using the Commutative Property or the Associative Property. Choose the correct property of addition.

8a. $\frac{5}{7} + \left(\frac{2}{9} + \frac{4}{7}\right) = \frac{5}{7} + \left(\frac{4}{7} + \frac{2}{9}\right)$

Associative Property
Commutative Property

8b. $\left(\frac{1}{8} + \frac{5}{6}\right) + \frac{1}{6} = \frac{1}{8} + \left(\frac{5}{6} + \frac{1}{6}\right)$

Associative Property
Commutative Property

8c. $\left(1\frac{2}{5} + 3\frac{1}{3}\right) + \frac{4}{5} = \left(3\frac{1}{3} + 1\frac{2}{5}\right) + \frac{4}{5}$

Associative Property
Commutative Property

9. Meredith uses a rule to write the following sequence of numbers.

$14\frac{3}{10}, 13\frac{4}{5}, 13\frac{3}{10}, \_\_\_\_\_, 12\frac{3}{10}$

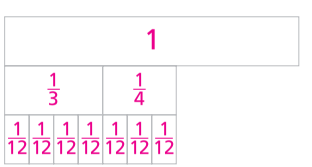
What rule did Meredith use? **subtract $\frac{1}{2}$**

What is the missing number in the sequence? **$12\frac{4}{5}$**

GO ON

Name _____ **Chapter 6 Test Page 4**

10. On the playground, $\frac{1}{4}$ of the students are on the jungle gym and $\frac{1}{3}$ of the students are playing kickball. What part of all the students on the playground is on the jungle gym or playing kickball? Use the tiles to complete the fraction strip model to show how you found your answer. The fractions may be used more than once or not at all.



$\frac{7}{12}$ of the students

11. Missy read $\frac{1}{12}$ of a book by Monday, $\frac{1}{4}$ of the book by Tuesday, and $\frac{5}{12}$ of the book by Wednesday.

Part A

What is the rule for how much of the book Missy reads each day? Show how you can check your answer.

Add $\frac{1}{6}$; Possible answer: If I begin with $\frac{1}{12}$ of the book read by Monday and follow the pattern "add $\frac{1}{6}$," then Missy will have read $\frac{1}{12} + \frac{1}{6} = \frac{1}{4}$ of the book by Tuesday and $\frac{1}{4} + \frac{1}{6} = \frac{5}{12}$ of the book by Wednesday. These numbers match the problem, so the answer checks.

Part B

If the pattern continues, how much of the book will Missy have read by Friday? Explain how you found your answer.

$\frac{3}{4}$ of the book; Possible answer: Each day, Missy reads another $\frac{1}{6}$ of the book. So, she will have read $\frac{5}{12} + \frac{1}{6} = \frac{7}{12}$ of the book by Thursday and $\frac{7}{12} + \frac{1}{6} = \frac{3}{4}$ of the book by Friday.

GO ON

Name _____

12. Jessica bought $\frac{1}{2}$ pound of roast beef and $\frac{5}{6}$ pound of ham. Which pairs of fractions are equivalent to the amounts Jessica bought? Mark all that apply.

- (A) $\frac{8}{16}$ and $\frac{10}{16}$
- (C) $\frac{5}{10}$ and $\frac{8}{10}$
- ● $\frac{6}{12}$ and $\frac{10}{12}$
- ● $\frac{12}{24}$ and $\frac{20}{24}$

13. Four presentations are being offered at a training seminar. The table shows how long each presentation runs.

Presentation Lengths	
Presentation	Time (in hours)
1	$4\frac{1}{2}$
2	$3\frac{3}{4}$
3	$5\frac{1}{3}$
4	$4\frac{2}{3}$

Match each pair of presentations with the difference in length between them.

Presentation 1 and Presentation 2 — $\frac{3}{4}$ hour
Presentation 2 and Presentation 4 — $\frac{5}{6}$ hour
Presentation 1 and Presentation 3 — $\frac{11}{12}$ hour

14. For numbers 14a–14d, tell which expressions require you to rename mixed numbers before you can subtract. Find each difference. Write each expression and the difference in the correct box.

14a. $5\frac{2}{5} - 2\frac{1}{4}$
14b. $5 - 2\frac{7}{8}$
14c. $7\frac{2}{3} - 6\frac{1}{8}$
14d. $9\frac{1}{6} - 5\frac{2}{3}$

Requires Renaming	Does Not Require Renaming
$5 - 2\frac{7}{8} = 2\frac{1}{8}$	$5\frac{2}{5} - 2\frac{1}{4} = 3\frac{3}{20}$
$9\frac{1}{6} - 5\frac{2}{3} = 3\frac{1}{2}$	$7\frac{2}{3} - 6\frac{1}{8} = 1\frac{13}{24}$

GO ON

Name _____

15. Horatio sanded a dresser for $1\frac{1}{4}$ hours. Then he stained the dresser for $2\frac{1}{3}$ hours. For numbers 15a–15c, select True or False for each statement.

15a. A common denominator of the mixed numbers is 12. ● True ○ False

15b. The amount of time spent sanding the dresser can be rewritten as $1\frac{3}{12}$ hours. ● True ○ False

15c. Horatio spent $1\frac{1}{6}$ hours longer staining the dresser than sanding it. ○ True ● False

16. Nathan spent $\frac{1}{5}$ of his allowance on a movie ticket and $\frac{1}{4}$ of his allowance on a snack.

Part A

Complete the calculations below to write equivalent fractions with a common denominator. **Possible answers given.**

$\frac{1}{5} = \frac{1}{5} \times \frac{\boxed{4}}{\boxed{4}} = \frac{\boxed{4}}{\boxed{20}}$ $\quad\quad$ $\frac{1}{4} = \frac{1}{4} \times \frac{\boxed{5}}{\boxed{5}} = \frac{\boxed{5}}{\boxed{20}}$

Part B

How much of his allowance did Nathan spend? Explain how you found your answer.

$\frac{9}{20}$ of his allowance; Possible answer: To find the total portion of the allowance spent, I added the numerators and kept the same denominator to find $\frac{4}{20} + \frac{5}{20} = \frac{9}{20}$.

Part C

How much more of his allowance did Nathan spend on the snack than on the movie ticket? Explain how you found your answer.

$\frac{1}{20}$ of his allowance; Possible answer: To find how much more of his allowance was spent on the snack than on the movie ticket, I subtracted the numerators and kept the same denominator to find $\frac{5}{20} - \frac{4}{20} = \frac{1}{20}$.

STOP

Name _____ **Chapter 6**

Sugar and Spice

George is baking apple cinnamon muffins. Use the recipe card to answer the questions.

Apple Cinnamon Muffins	
$1\frac{1}{2}$ cups flour	$\frac{3}{4}$ teaspoon nutmeg
$\frac{3}{4}$ cup white sugar	$\frac{1}{4}$ cup vegetable oil
2 teaspoons baking powder	$\frac{3}{8}$ cup milk
$\frac{1}{2}$ teaspoon salt	$1\frac{1}{4}$ cups chopped apples
$1\frac{3}{8}$ teaspoons cinnamon	1 egg

1. George uses the recipe to make muffins. Estimate the total amount of cinnamon and nutmeg he uses. Describe how you made your estimate.

2 teaspoons cinnamon
3/8 is almost 4/8 which equals 1/2, so 1 3/8 ≈ 1 1/2
3/4 is a little more than 2/4 which equals 1/2, so 3/4 ≈ 1/2 so 1 3/8 + 3/4 ≈ 1 1/2 + 1/2 = 2

2. a. How much more cinnamon than nutmeg does George use? Show your work, and write your answer in simplest form. 1 3/8 = 1 3/8 = 11/8

5/8 teaspoon - - 3/4 = - 6/8 = - 6/8

9/8

b. Explain how you know your answer is in simplest form.

factors of 5 are 1 and 5. factors of 8 are 1, 2, 4 and 8. the greatest common factor is 5 and 8 is 1, so 5/8 is the simplest.

3. George puts the chopped apples in a bowl. Then he takes out $\frac{1}{2}$ cup of the apples, and adds the oil. What is the combined amount of apple and oil in the bowl? Show your work, and write your answer in simplest form.

1 cup

1 1/4 - 1/2 + 1/4 = (1 1/4 + 1/4) - 1/2 = 1 2/4 - 1/2
= 1 1/2 - 1/2
= 1

4. The table shows the cups of milk George needs to make different numbers of batches of muffins.

Number of Batches	1	2	3	4
Cups of Milk	$\frac{3}{8}$	$\frac{3}{4}$	$1\frac{1}{8}$	$1\frac{1}{2}$

pattern add 3/8 cup milk

If the pattern continues, how many cups of milk does George need to make 6 batches of muffins? Explain how you found your answer. Write your answer in simplest form.

for 5 batches you need 1 1/2 + 3/8 cup of milk
for 6 batches 1 1/2 + 3/8 + 3/8

2 1/4 cups

1 1/2 + (3/8 + 3/8) = 1 1/2 + 6/8 = 1 2/4 + 3/4 = 1 5/4 =
1 + 1 1/4 = 2 1/4

Name _____ **Chapter 6**

Sugar and Spice

George is baking apple cinnamon muffins. Use the recipe card to answer the questions.

Apple Cinnamon Muffins	
$1\frac{1}{2}$ cups flour	$\frac{3}{4}$ teaspoon nutmeg
$\frac{3}{4}$ cup white sugar	$\frac{1}{4}$ cup vegetable oil
2 teaspoons baking powder	$\frac{3}{8}$ cup milk
$\frac{1}{2}$ teaspoon salt	$1\frac{1}{4}$ cups chopped apples
$1\frac{3}{8}$ teaspoons cinnamon	1 egg

1. George uses the recipe to make muffins. Estimate the total amount of cinnamon and nutmeg he uses. Describe how you made your estimate.

$1\frac{3}{8} + \frac{3}{4} \approx 1\frac{1}{2} + \frac{1}{2} = 2$ teaspoons

$\frac{3}{8}$ is almost $\frac{1}{2} = 1\frac{1}{2}$

$\frac{3}{4}$ is almost $\frac{1}{2} = \frac{1}{2}$

$1\frac{1}{2} + \frac{1}{2} = 2$

2. a. How much more cinnamon than nutmeg does George use? Show your work, and write your answer in simplest form.

$1\frac{3}{8} = 1\frac{3}{8} = \frac{11}{8}$

$-\ \frac{3}{4} = -\frac{6}{8} = -\frac{6}{8} = \frac{5}{8}$ teaspoon

b. Explain how you know your answer is in simplest form.

5 is the smallest and 8 is the smallest too

3. George puts the chopped apples in a bowl. Then he takes out $\frac{1}{2}$ cup of the apples, and adds the oil. What is the combined amount of apple and oil in the bowl? Show your work, and write your answer in simplest form.

$1\frac{1}{4} - \frac{1}{2} + \frac{1}{4} = \left(1\frac{1}{4} + \frac{1}{4}\right) - \frac{1}{2}$

$= 1\frac{1}{2} - \frac{1}{2}$

$= 1$ cup

4. The table shows the cups of milk George needs to make different numbers of batches of muffins.

Number of Batches	1	2	3	4
Cups of Milk	$\frac{3}{8}$	$\frac{3}{4}$	$1\frac{1}{8}$	$1\frac{1}{2}$

If the pattern continues, how many cups of milk does George need to make 6 batches of muffins? Explain how you found your answer. Write your answer in simplest form.

$1\frac{1}{2} + \frac{6}{8} =$

$\frac{12}{8} + \frac{6}{8} = \frac{18}{8} = 2\frac{2}{4} = 2\frac{1}{2}$

Name _____ **Chapter 6**

Sugar and Spice

George is baking apple cinnamon muffins. Use the recipe card to answer the questions.

Apple Cinnamon Muffins	
$1\frac{1}{2}$ cups flour	$\frac{3}{4}$ teaspoon nutmeg
$\frac{3}{4}$ cup white sugar	$\frac{1}{4}$ cup vegetable oil
2 teaspoons baking powder	$\frac{3}{8}$ cup milk
$\frac{1}{2}$ teaspoon salt	$1\frac{1}{4}$ cups chopped apples
$1\frac{3}{8}$ teaspoons cinnamon	1 egg

1. George uses the recipe to make muffins. Estimate the total amount of cinnamon and nutmeg he uses. Describe how you made your estimate.

$1\frac{3}{8} + \frac{3}{4}$ is about $1\frac{1}{2} + \frac{1}{2} = 2$

I just added them together

2. a. How much more cinnamon than nutmeg does George use? Show your work, and write your answer in simplest form.

$1\frac{3}{8} - \frac{6}{8} = 1\frac{3}{8}$

b. Explain how you know your answer is in simplest form.

It is the simplest way to write it

3. George puts the chopped apples in a bowl. Then he takes out $\frac{1}{2}$ cup of the apples, and adds the oil. What is the combined amount of apple and oil in the bowl? Show your work, and write your answer in simplest form.

$1\frac{1}{4}$

$-\frac{1}{2} = \frac{2}{4}$

$1\frac{-1}{4} + \frac{1}{4} = 1\frac{1}{4}$

4. The table shows the cups of milk George needs to make different numbers of batches of muffins.

Number of Batches	1	2	3	4
Cups of Milk	$\frac{3}{8}$	$\frac{3}{4}$	$1\frac{1}{8}$	$1\frac{1}{2}+\frac{3}{8}$

$\frac{3}{4} = \frac{5}{8}$

$-\frac{3}{8}$

$\frac{2}{8}$

$5 \mid 6$

$1\frac{3}{8} \mid 1\frac{5}{8}$

If the pattern continues, how many cups of milk does George need to make 6 batches of muffins? Explain how you found your answer. Write your answer in simplest form.

$1\frac{1}{2} + \frac{2}{8} = 1\frac{3}{8}$

$1\frac{3}{8} + \frac{2}{8}$

$1\frac{5}{8}$

Name _____ **Chapter 6**

Sugar and Spice

George is baking apple cinnamon muffins. Use the recipe card to answer the questions.

Apple Cinnamon Muffins	
$1\frac{1}{2}$ cups flour	$\frac{3}{4}$ teaspoon nutmeg
$\frac{3}{4}$ cup white sugar	$\frac{1}{4}$ cup vegetable oil
2 teaspoons baking powder	$\frac{3}{8}$ cup milk
$\frac{1}{2}$ teaspoon salt	$1\frac{1}{4}$ cups chopped apples
$1\frac{3}{8}$ teaspoons cinnamon	1 egg

1. George uses the recipe to make muffins. Estimate the total amount of cinnamon and nutmeg he uses. Describe how you made your estimate.

$1 + \frac{3}{8} + \frac{3}{4} = 1\frac{6}{12} = 1\frac{1}{2}$

2. a. How much more cinnamon than nutmeg does George use? Show your work, and write your answer in simplest form.

$1\frac{3}{8} - \frac{3}{4} = 1\frac{0}{4} = 1$

b. Explain how you know your answer is in simplest form.

Because it's the only number left.

3. George puts the chopped apples in a bowl. Then he takes out $\frac{1}{2}$ cup of the apples, and adds the oil. What is the combined amount of apple and oil in the bowl? Show your work, and write your answer in simplest form.

$1\frac{1}{4} - \frac{1}{2}$ $1\frac{0}{2} + \frac{1}{4} = 1\frac{1}{4}$

4. The table shows the cups of milk George needs to make different numbers of batches of muffins.

Number of Batches	1	2	3	4
Cups of Milk	$\frac{3}{8}$	$\frac{3}{4}$	$1\frac{1}{8}$	$1\frac{1}{2}$

If the pattern continues, how many cups of milk does George need to make 6 batches of muffins? Explain how you found your answer. Write your answer in simplest form.

$1\frac{1}{8} + 1\frac{1}{8} = 2\frac{2}{10}$ - I just added the cups from 3

Sample Level 0 Response

Name _____

Middle of Year Test
Page 1

Choose the correct answer.

1. Mark's computer weighs 35.769 pounds. What is the weight of his computer rounded to the nearest hundredth?

- (A) 36.77 pounds
- (B) 36.0 pounds
- (C) 35.8 pounds
- ● 35.77 pounds

2. The mall is 4.72 kilometers from Julie's house and 1.83 kilometers from Taylor's house. How much farther does Julie live from the mall than Taylor?

- (A) 3.8 kilometers
- ● 2.89 kilometers
- (C) 2.8 kilometers
- (D) 1.89 kilometers

3. Roberto's puppy weighed 4.5 pounds at the end of May. During June and July, the puppy gained 18.63 pounds. How much did Roberto's puppy weigh at the end of July?

- (A) 19.08 pounds
- (B) 22.08 pounds
- (C) 22.13 pounds
- ● 23.13 pounds

4. Cory and Mike are playing a number pattern game. Cory wrote the following pattern.

32.8, 31.5, 30.2, ____, 27.6

What is the unknown number in the pattern Cory wrote?

- (A) 30.0
- (B) 29.9
- ● 28.9
- (D) 27.9

5. Francine used her computer for $2\frac{1}{8}$ hours Tuesday evening and for $2\frac{1}{4}$ hours on Wednesday evening. Which is the best estimate of the time Francine used her computer on Tuesday and Wednesday evenings?

- (A) about $\frac{1}{4}$ hour
- (B) about 3 hours
- ● about 4 hours
- (D) about 5 hours

GO ON

Name _____

Middle of Year Test
Page 2

6. Marvin has a piece of chain that is $3\frac{5}{12}$ feet long. He uses $2\frac{1}{3}$ feet of the chain for his art project. How much chain does Marvin have left?

- ● $1\frac{1}{12}$ feet
- (B) $1\frac{2}{12}$ feet
- (C) $2\frac{1}{12}$ feet
- (D) $2\frac{2}{12}$ feet

7. David has 3 bags of groceries weighing a total of $25\frac{1}{2}$ pounds. Two of the bags weigh $7\frac{5}{8}$ pounds and $4\frac{3}{4}$ pounds. How much does the third bag weigh?

- (A) $20\frac{6}{8}$ pounds
- (B) $17\frac{7}{8}$ pounds
- ● $13\frac{1}{8}$ pounds
- (D) $12\frac{2}{8}$ pounds

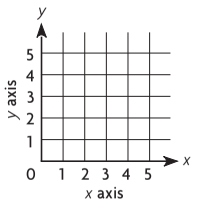
8. Yolanda hiked each day for a week. The first day she hiked $\frac{1}{5}$ mile, the second day she hiked $\frac{3}{5}$ mile, and the third day she hiked 1 mile. By how much did she increase the distance she hiked each day?

- (A) $\frac{3}{5}$ mile
- ● $\frac{2}{5}$ mile
- (C) $\frac{1}{3}$ mile
- (D) $\frac{1}{2}$ mile

9. A cookie recipe calls for $\frac{5}{8}$ cup of flour and $\frac{5}{6}$ cup of sugar. What is the least common denominator of the fractions?

- (A) 6
- (B) 12
- (C) 18
- ● 24

10. On a coordinate grid, Anne's house is located 4 blocks to the right and 3 blocks up from (0, 0). Dan's house is located 2 blocks to the left and 1 block up from Anne's house. What ordered pair describes the location of Dan's house?



- ● (2, 4)
- (B) (2, 2)
- (C) (2, 3)
- (D) (4, 2)

GO ON

Name _____

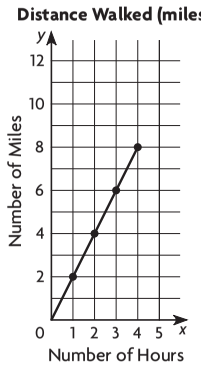
Middle of Year Test
Page 3

11. What is the unknown number in Sequence 2 in the chart?

Sequence Number	1	2	3	6	8
Sequence 1	6	12	18	36	48
Sequence 2	12	24	36	72	?

(A) 80
(B) 84
● 96
(D) 108

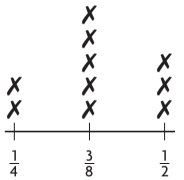
12. The graph shows the relationship between the number of hours and the number of miles walked.



What rule relates the number of hours to the number of miles walked?

(A) Multiply the number of hours by $\frac{1}{2}$.
(B) Multiply the number of miles walked by 2.
(C) Multiply the number of hours by $2\frac{1}{2}$.
● Multiply the number of hours by 2.

13. Mark is cutting a large cheese wheel into small wedges to sell in his store. The line plot shows the weight of the small wedges of cheese.



How many wedges of cheese will be less than $\frac{1}{2}$ pound?

(A) 5
● 7
(C) 8
(D) 10

14. Maria is buying a digital camera on layaway for $193. If she makes a down payment of $25 and pays $24 each week, how many weeks will it take Maria to pay for the digital camera?

● 7
(B) 8
(C) 10
(D) 12

GO ON

Name _____

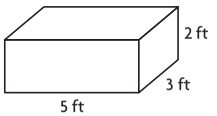
Middle of Year Test
Page 4

15. Tony drew a picture of his vegetable garden.

What type of quadrilateral is Tony's vegetable garden?

(A) rectangle
(B) rhombus
● parallelogram
(D) square

16. Jared made a storage bin with the dimensions shown.



What is the volume of the storage bin?

(A) 6 cubic feet
(B) 10 cubic feet
(C) 15 cubic feet
● 30 cubic feet

17. The bricks used to make the walkway leading to the town hall are shaped like regular pentagons. Which of the following describes a regular pentagon?

(A) a figure with 5 sides and 5 angles that are not congruent
● a figure with 5 congruent sides and 5 congruent angles
(C) a figure with 6 congruent sides and 6 congruent angles
(D) a figure with 6 sides that are not congruent

18. A recycling bin in the shape of a rectangular prism has a volume of 960 cubic inches. The base area of the recycling bin is 32 square inches. What is the height of the recycling bin?

(A) 10 inches
(B) 15 inches
● 30 inches
(D) 36 inches

19. A restaurant uses 32 potatoes for each batch of potato soup it makes. About how many batches of potato soup can the restaurant make from its last shipment of 1,275 potatoes?

(A) 30
● 40
(C) 45
(D) 50

GO ON

Name _____

Middle of Year Test
Page 5

20. The music teacher has a list of 128 students who have signed up for music classes. The music teacher can register 6 students in each class. What is the **least** number of classes needed for all the students to be registered in a class?

(A) 20
(B) 21
● 22
(D) 24

21. The number of red beads Sheila has is four times as many as the number of green beads she has. There are 75 red and green beads. How many red beads does Sheila have?

● 60
(B) 50
(C) 20
(D) 15

22. The owner of a toy store received a shipment of 1,552 party favors. The party favors came in 28 boxes. The same number of party favors were in 27 of the boxes. How many party favors were in the last box?

(A) 3
(B) 6
● 13
(D) 23

23. Carlos uses 32 tiles to cover the top of his computer desk. Of the tiles, $\frac{3}{4}$ are red. How many of the tiles are red?

(A) 26
● 24
(C) 12
(D) 8

24. Noreen worked $3\frac{1}{3}$ hours on her math project. Donald worked $1\frac{1}{5}$ times as long on his math project as Noreen did. For how many hours did Donald work on his math project?

(A) $4\frac{1}{3}$ hours
● 4 hours
(C) $4\frac{1}{2}$ hours
(D) 5 hours

25. Rhianna had $\frac{3}{4}$ quart of orange juice. She drank $\frac{1}{3}$ of it at breakfast. How much orange juice did Rhianna drink?

(A) $\frac{1}{8}$ quart
● $\frac{1}{4}$ quart
(C) $\frac{1}{3}$ quart
(D) $\frac{1}{2}$ quart

GO ON

Name _____

Middle of Year Test
Page 6

26. Jeremy had 36 community concert tickets to sell. He sold $\frac{2}{3}$ of the tickets. How many tickets did Jeremy sell?

(A) 12
(B) 18
● 24
(D) 30

27. Jamie made $8\frac{1}{4}$ cups of fruit punch for a party. Her guests drank $\frac{2}{3}$ of the punch. How much fruit punch did her guests drink?

(A) $5\frac{1}{4}$ cups
● $5\frac{1}{2}$ cups
(C) $6\frac{1}{4}$ cups
(D) $6\frac{1}{2}$ cups

28. Annette is stacking boxes in her closet. There are 15 boxes in all. If each box weighs 7.5 pounds, how much do the boxes weigh altogether?

(A) 11.25 pounds
(B) 21.25 pounds
● 112.5 pounds
(D) 1,125 pounds

29. The instruction booklet for a CD player says that the player uses about 0.2 kilowatt of electricity per hour. If electricity costs $0.30 per kilowatt hour, how much does it cost to run the player for an hour?

(A) $60.00
(B) $6.00
(C) $0.60
● $0.06

30. Terry was doing research for a report about the longest rivers in the United States. He read that the Rio Grande is about 1.9×10^3 miles long. How should Terry write the length of the Rio Grande in standard form on his report?

(A) 19 miles
(B) 190 miles
● 1,900 miles
(D) 19,000 miles

GO ON

Name _____

Middle of Year Test
Page 7

31. Ethan's favorite kind of exercise is running. He runs on a path that is 1.75 miles long. Last week, Ethan ran on the path 6 times. How many miles did Ethan run on the path last week?

Ⓐ 0.105 mile
Ⓑ 1.05 miles
● 10.5 miles
Ⓓ 105 miles

32. There is $\frac{1}{2}$ pound of meatloaf that will be shared equally among 3 friends. What fraction of a pound of meatloaf will each friend get?

Ⓐ $\frac{2}{3}$ pound
Ⓑ $\frac{1}{2}$ pound
Ⓒ $\frac{1}{3}$ pound
● $\frac{1}{6}$ pound

33. At lunch, 6 friends share 4 pizzas equally. What fraction of a pizza does each friend get?

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

34. Lucas has $\frac{2}{3}$ quart of milk. He pours the same amount into each of 3 glasses. Which equation represents the fraction of a quart of milk n that is in each glass?

Ⓐ $\frac{2}{3} \div \frac{1}{3} = n$
● $\frac{2}{3} \div 3 = n$
Ⓒ $3 \div \frac{2}{3} = n$
Ⓓ $2 \div 3 = n$

35. Mia evaluates $5 \div \frac{1}{6}$ by using a related multiplication expression. Which multiplication expression should she use?

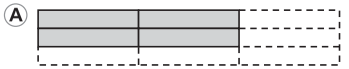
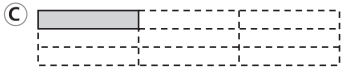
● 5×6
Ⓑ $\frac{1}{5} \times \frac{1}{6}$
Ⓒ $\frac{1}{5} \times 6$
Ⓓ $5 \times \frac{1}{6}$

GO ON

Name _____

Middle of Year Test
Page 8

36. Matthew made lasagna for dinner. He gave equal portions of $\frac{2}{3}$ of the lasagna to 3 friends. What diagram could Matthew use to find the fraction of the whole lasagna that each friend got?

Ⓐ 
● 
Ⓒ 
Ⓓ 

37. Tami rode her bicycle 22.5 miles in 4 hours. Which gives the **best** estimate of how far Tami rode in 1 hour?

Ⓐ between 4 and 5 miles
● between 5 and 6 miles
Ⓒ between 6 and 7 miles
Ⓓ between 7 and 8 miles

38. Yoshi is riding in a bike-a-thon to raise money for his favorite charity. The total distance of the bike-a-thon is 28.5 miles. So far he has completed $\frac{1}{10}$ of the bike-a-thon. How many miles has Yoshi biked?

Ⓐ 0.285 mile
● 2.85 miles
Ⓒ 28.5 miles
Ⓓ 285 miles

39. Teresa has a piece of ribbon that is 24.8 yards long. The length is just enough ribbon to wrap 8 packages. How long is the ribbon that she uses for each package?

Ⓐ 3.5 yards
Ⓑ 3.2 yards
● 3.1 yards
Ⓓ 3.01 yards

40. Diego bought cookies that cost $0.89 per pound. He paid $4.45 for the cookies. How many pounds of cookies did he buy?

Ⓐ 50 pounds
● 5 pounds
Ⓒ 0.5 pound
Ⓓ 0.05 pound

GO ON

Name _____

Middle of Year Test
Page 9

41. Kate spent a total of $15.45 on a trip to the movies. She spent $5.00 on bus fares to and from the movie and $3.95 on snacks. How much did she spend on her movie ticket?

- (A) $5.50
- (B) $6.05
- ● $6.50
- (D) $7.50

42. A national park reports that it had 2,382,476 visitors last year. What is the value of the digit 8 in 2,382,476?

- (A) 8,000
- ● 80,000
- (C) 800,000
- (D) 8,000,000

43. Ricky just received a shipment of 600 CDs for his music store. Each CD costs $20. Which of the following could Ricky use to find the total amount he will pay for the CDs?

- (A) $(6 \times 2) \times 10^1 = 120$
- (B) $(6 \times 2) \times 10^2 = 1{,}200$
- ● $(6 \times 2) \times 10^3 = 12{,}000$
- (D) $(6 \times 2) \times 10^4 = 120{,}000$

44. A truck driver travels 385 miles every day. How many miles does he travel in 6 days?

- (A) 1,310 miles
- (B) 2,210 miles
- ● 2,310 miles
- (D) 2,410 miles

45. Jasmine and her brother Nat are saving to buy a digital camera that costs $135. Jasmine earns $15 per week for babysitting and spends $5 of it. Nat earns $18 per week for walking dogs and spends $7 of it. Which expression can be used to find how many weeks it will take to save for the digital camera?

- (A) $135 \div [(15 + 5) - (18 - 7)]$
- (B) $135 \div [(15 + 5) - (18 + 7)]$
- (C) $135 \div [(15 + 5) + (18 + 7)]$
- ● $135 \div [(15 - 5) + (18 - 7)]$

GO ON

Name _____

Middle of Year Test
Page 10

46. Joanne has 96 beads to make necklaces. She uses an equal number of beads to make each of 8 necklaces. Which multiplication sentence could Joanne use to find the number of beads in each necklace?

- ● $8 \times 12 = 96$
- (B) $96 \times 8 = 12$
- (C) $8 \times 96 = 768$
- (D) $6 \times 96 = 576$

47. Sofia's room is 14 feet long. How many inches are in 14 feet?

- (A) 42 inches
- ● 168 inches
- (C) 178 inches
- (D) 1,780 inches

48. Mr. Richards had 6,000 pounds of top soil delivered to his house. How many tons is 6,000 pounds?

- (A) 2 tons
- ● 3 tons
- (C) 4 tons
- (D) 6 tons

49. The play started at 8:15 P.M. and ended at 10:42 P.M. How long did the play last?

- ● 2 hours 27 minutes
- (B) 2 hours 37 minutes
- (C) 3 hours 27 minutes
- (D) 3 hours 37 minutes

50. Adam used 4.25 meters of wood trim to make picture frames. How many centimeters of wood trim did he use?

- (A) 0.425 centimeter
- (B) 4.25 centimeters
- (C) 42.5 centimeters
- ● 425 centimeters

STOP

Name _____

Chapter 7 Test
Page 1

1. Tommy has 5 jars of marbles. Each jar is $\frac{2}{3}$ filled with marbles. How many full jars of marbles does Tommy have? Shade the model and complete the calculations below to show how you found your answer.

$5 \times \frac{2}{3} = \frac{\boxed{10}}{3} =$ $3\frac{1}{3}$ jars of marbles

2. Stacey worked on her garden for $4\frac{3}{4}$ hours. Josh worked on his garden $\frac{2}{3}$ times as long as Stacey. Vicki worked on her garden $1\frac{3}{8}$ times as long as Stacey. For numbers 2a–2d, select True or False for each statement.

2a.	Stacey worked longer on her garden than Josh worked on his garden.	● True	○ False
2b.	Stacey spent less time working on her garden than Vicki spent on her garden.	● True	○ False
2c.	Josh worked longer on his garden than Vicki worked on her garden.	○ True	● False
2d.	Vicki worked longer on her garden than Stacy and Josh combined.	○ True	● False

3. The Gilberts are designing a rectangular patio. The patio has an area of 432 square feet. The width of the patio is $\frac{3}{4}$ its length. What is the length of the patio?

24 feet

GO ON

Name _____

Chapter 7 Test
Page 2

4. Jesse surveyed $\frac{3}{4}$ of the students at her school. Of those surveyed, $\frac{2}{3}$ participate in a school club or sports team. According to Jesse's survey, what fraction of the students participate in a school club or sports team? For numbers 4a–4d, select the correct values to describe how to solve the problem.

4a. Draw a rectangular array with 3 rows and [3, (4), 5] columns.

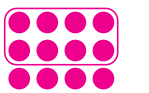
4b. Shade [1, (2), 3] of the rows gray.

4c. Shade [4, 5, (6)] of the gray squares black.

4d. According to Jesse's survey, [(1/2), 3/4, 3/8] of the students participate in a school club or sports team.

5. Tien bought 12 books. Two-thirds of the books are science fiction. How many of the books are science fiction? Draw a model to show how you found your answer.

Possible answer:



8 science fiction books

6. Jessica rides the bus $8\frac{4}{5}$ miles each day. Which statements correctly describe how far she rides the bus? Mark all that apply.

- ● Jessica rides the bus $35\frac{1}{5}$ miles in 4 days.
- ● Jessica rides the bus 88 miles in 10 days.
- Ⓑ Jessica rides the bus $61\frac{4}{5}$ miles in 7 days.
- Ⓓ Jessica rides the bus $218\frac{2}{5}$ miles in 25 days.

GO ON

Name _____ **Chapter 7 Test Page 3**

7. Write each multiplication expression in the correct box.

$\frac{2}{3} \times \frac{2}{3}$ $\quad \frac{5}{6} \times \frac{2}{3}$ $\quad 4\frac{1}{8} \times \frac{2}{3}$ $\quad \frac{4}{4} \times \frac{2}{3}$ $\quad \frac{2}{3} \times 2$ $\quad \frac{2}{3} \times \frac{5}{5}$

Product is equal to $\frac{2}{3}$.	Product is greater than $\frac{2}{3}$.	Product is less than $\frac{2}{3}$.
$\frac{4}{4} \times \frac{2}{3}, \frac{2}{3} \times \frac{5}{5}$	$4\frac{1}{8} \times \frac{2}{3}, \frac{2}{3} \times 2$	$\frac{2}{3} \times \frac{2}{3}, \frac{5}{6} \times \frac{2}{3}$

8. A rug has an area of 48 square feet. Two similar rugs have areas of 108 square feet and 192 square feet. In each rug, the length is $1\frac{1}{3}$ times the width. Which of the following could be the dimensions of one of the rugs? Mark all that apply.

- (●) 6 feet by 8 feet
- (B) 10 feet by 18 feet
- (●) 9 feet by 12 feet
- (●) 12 feet by 16 feet
- (E) 4 feet by 12 feet

9. In a fifth-grade class, $\frac{3}{4}$ of the students like to go to the movies. Of the students who like to go to the movies, $\frac{2}{3}$ of them like action movies. Of the students who like to go to action movies, $\frac{4}{5}$ of them also like comedies.

Part A

What fraction of the students in the class like to go to action movies?

$\frac{1}{2}$ of the students

Part B

What fraction of the students in the class like to go to action movies and comedies? Explain how you found your answer.

$\frac{2}{5}$ of the students

Possible explanation: In Part A, I multiplied $\frac{3}{4} \times \frac{2}{3} = \frac{1}{2}$ to find the fraction of the students in the class who like to go to action movies. I know that $\frac{4}{5}$ of these students also like to go to comedies, so I can multiply to find the answer: $\frac{1}{2} \times \frac{4}{5} = \frac{2}{5}$.

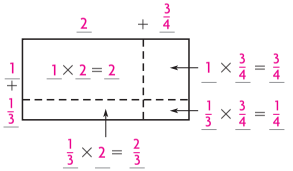
GO ON

Name _____ **Chapter 7 Test Page 4**

10. A farmer's field has the dimensions shown. He needs to find the area of the field so that he knows how much seed to buy. Complete the area model below to find the area of the field.

$1\frac{1}{3}$ km

$2\frac{3}{4}$ km



area of the field = $3\frac{2}{3}$ square kilometers

11. It took Mary Lou $\frac{5}{6}$ hour to write a report for English class. It took Heather $\frac{9}{10}$ as much time to write her report as it took Mary Lou. For numbers 11a–11c, select Yes or No to answer each question.

11a.	Did Mary Lou and Heather take the same amount of time to write their reports?	○ Yes	● No
11b.	Did Mary Lou spend more time writing her report than Heather?	● Yes	○ No
11c.	Did it take Heather $\frac{3}{4}$ hour to write her report?	● Yes	○ No

12. Andrea bought 12 bagels and 10 muffins at the bakery. Of these items, $\frac{2}{3}$ of the bagels were multigrain, and $\frac{3}{5}$ of the muffins were bran muffins.

12a. How many multigrain bagels did Andrea buy?

8 multigrain bagels

12b. How many bran muffins did Andrea buy?

6 bran muffins

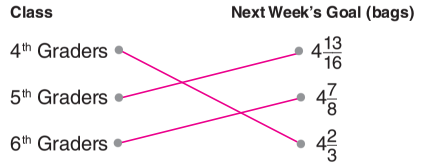
GO ON

Name _____ Chapter 7 Test Page 5

13. The table shows how many bags of canned goods each class collected during the first week of a food drive.

Class	Bags of Canned Goods
4th Graders	$3\frac{1}{2}$
5th Graders	$2\frac{3}{4}$
6th Graders	$3\frac{1}{4}$

Next week the 4th graders hope to collect $1\frac{1}{3}$ times as many bags of canned goods as the first week. The 5th graders' goal is to collect $1\frac{3}{4}$ times as many bags of canned goods as they collected in week 1. The 6th graders hope to collect $1\frac{1}{2}$ times as many bags of canned goods. Match each class to the number of bags of canned goods they hope to collect next week.

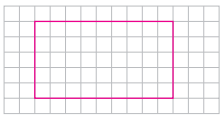


14. Hannah is tiling a section of her bathroom wall with tiles that are $\frac{1}{2}$ foot by $\frac{1}{2}$ foot. The section of the wall is $2\frac{1}{2}$ feet tall and $4\frac{1}{2}$ feet wide.

Part A

Let each square of the grid below represent $\frac{1}{2}$ foot by $\frac{1}{2}$ foot. Draw a rectangle on the grid to represent the section of wall.

Possible answer:



Part B

What is the area of the section of wall? Explain how you found your answer.

$11\frac{1}{4}$ square feet

Possible explanation: There are 5 rows and 9 columns of squares, for a total of $5 \times 9 = 45$ squares. Each square represents an area of $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$ square foot. So, the area of the section of wall is $45 \times \frac{1}{4} = 11\frac{1}{4}$ square feet.

GO ON

Name _____ Chapter 7 Test Page 6

15. Mr. Enders conducted a survey and found that $\frac{2}{5}$ of his students play a team sport and $\frac{1}{4}$ of those students play basketball. What fraction of his students play basketball? Write a number from the number tiles in each box to complete the calculations shown below. You may use numbers more than once or not at all.

$$\frac{2}{5} \times \frac{1}{4} = \frac{2 \times \boxed{1}}{5 \times \boxed{4}} = \frac{\boxed{2}}{\boxed{20}} = \frac{\boxed{1}}{\boxed{10}}$$

1	2	3	4
5	10	12	20

$\frac{1}{10}$ of his students

16. Katrina is using the recipe below to make vegetable soup. She plans to make 8 batches of the soup. She has 6 pounds of potatoes.

Vegetable Soup Recipe

- 2 onions, chopped
- 3 carrots, diced
- 2 celery stalks, diced
- $1\frac{3}{4}$ cups diced tomatoes
- $\frac{3}{4}$ pound potatoes, diced
- $\frac{1}{2}$ cup each green beans, corn, peas
- 2 32-oz containers beef stock
- 1 teaspoon salt

Part A

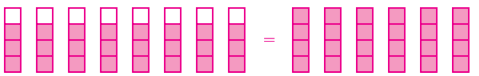
Write an expression that Katrina can use to determine how many pounds of potatoes are needed for 8 batches.

$8 \times \frac{3}{4}$

Part B

Draw a model to show how Katrina can find the product from Part A.

Possible answer:



Part C

Does Katrina have enough potatoes for 8 batches of the soup? Explain your reasoning.

Yes; possible explanation: Katrina needs $8 \times \frac{3}{4} = \frac{24}{4} = 6$ pounds of potatoes to make 8 batches. So, she has enough to make 8 batches of the soup.

STOP

Name _____

Hours of Sound

Ivan loves music and listens to his favorite songs on his MP3 player.

1. Ivan has 4 hours of music on his MP3 player. Jazz makes up $\frac{1}{6}$ of the total time.
   a. How many hours of jazz are on Ivan's MP3 player? Show your work.

$\frac{1}{6} \times \frac{4}{1} = \frac{4}{6} - \frac{2}{3}$ $\frac{2}{3}$ hour

   b. Are there more than or less than 60 minutes of jazz on Ivan's MP3 player? Explain how you know.

less 1 hour is 60 minutes. $\frac{2}{3}$ is part of a whole. $\frac{2}{3}$ of an hour is less than 1 hour.

   c. $\frac{2}{5}$ of the jazz is by musicians from New Orleans. How many hours of New Orleans jazz does Ivan have? Show your work.

$\frac{2}{5} \times \frac{2}{3} = \frac{4}{15}$ $\frac{4}{15}$ of an hour

2. On Ivan's MP3 player, $\frac{5}{6}$ of the 4 hours of music is rock and hip-hop.
   a. How many hours of rock and hip-hop does Ivan have?

$\frac{5}{6} \times \frac{4}{1} = \frac{20}{6} = \frac{10}{3} = 3\frac{1}{3}$ $3\frac{1}{3}$ hours

   b. Ivan's sister Miranda says $\frac{15}{18}$ of the 4 hours of music is rock and hip-hop. Is she correct? Explain how you know.

Yes $\frac{15}{18}$ is the same as $\frac{5}{6}$. $\frac{15}{18} = \frac{5}{6}$

3. Ivan plans to reorganize the music on his MP3 player. After the changes he is planning, he will have $2\frac{4}{5}$ times as many hours of rock and hip-hop music on his MP3 player.
   a. Is Ivan planning to add or remove rock and hip-hop music from his MP3 player? Explain how you know.

add $2\frac{4}{5}$ is bigger than 1 so it will be more than $3\frac{1}{3}$

   b. How many hours of rock and hip-hop will Ivan have after he makes the changes? Show your work. $9\frac{1}{3}$ hours

$2\frac{4}{5} \times 3\frac{1}{3} =$

$\frac{14}{5} \times \frac{10}{3} =$

$\frac{140}{15} = \frac{28}{3} = 9\frac{1}{3}$

$5\overline{)140}$ 28, 10, 40

4. The front face of Ivan's MP3 player is a rectangle that is $2\frac{1}{2}$ inches long. The width is $\frac{7}{8}$ of the length. What is the area of the front face of the MP3 player? Show your work.

$5\frac{15}{32}$ square inches

$\frac{7}{8} \times 2\frac{1}{2} =$

$\frac{7}{8} \times \frac{5}{2} =$

$\frac{35}{16} = 2\frac{3}{16}$ is the width

$w \times l$

$2\frac{3}{16} \times 2\frac{1}{2} =$

$\frac{35}{16} \times \frac{5}{2} =$

$\frac{175}{32} = 5\frac{15}{32}$

Name _____ Chapter 7

Hours of Sound

Ivan loves music and listens to his favorite songs on his MP3 player.

1. Ivan has 4 hours of music on his MP3 player. Jazz makes up $\frac{1}{6}$ of the total time.
   a. How many hours of jazz are on Ivan's MP3 player? Show your work.

$\frac{1}{6} \times \frac{4}{1} = \frac{4}{6} = \frac{2}{3}$ hour

   b. Are there more than or less than 60 minutes of jazz on Ivan's MP3 player? Explain how you know.

less! I divided and got 2/3 and 2/3 is less than a whole

   c. $\frac{2}{5}$ of the jazz is by musicians from New Orleans. How many hours of New Orleans jazz does Ivan have? Show your work.

$\frac{2}{5} \times \frac{2}{3} = \frac{4}{15}$ hour

2. On Ivan's MP3 player, $\frac{5}{6}$ of the 4 hours of music is rock and hip-hop.
   a. How many hours of rock and hip-hop does Ivan have?

$\frac{5}{6} \times \frac{4}{1} = \frac{20}{6} = 3\frac{1}{6}$

   b. Ivan's sister Miranda says $\frac{15}{18}$ of the 4 hours of music is rock and hip-hop. Is she correct? Explain how you know.

Yes Cause $\frac{15}{18}$ is equal to $\frac{5}{6}$ of 4 hours.

3. Ivan plans to reorganize the music on his MP3 player. After the changes he is planning, he will have $2\frac{4}{5}$ times as many hours of rock and hip-hop music on his MP3 player.
   a. Is Ivan planning to add or remove rock and hip-hop music from his MP3 player? Explain how you know.

add

   b. How many hours of rock and hip-hop will Ivan have after he makes the changes? Show your work.

$2\frac{4}{5} \times 3\frac{1}{6} =$

$\frac{14}{5} \times \frac{19}{6} = \frac{136}{30}$ 24 hours

30 | 136 — 60 — 136 — 120 — 16

$\frac{3}{14}\frac{19}{76}$ $\frac{4}{19}\frac{76}{736}$

4. The front face of Ivan's MP3 player is a rectangle that is $2\frac{1}{2}$ inches long. The width is $\frac{7}{8}$ of the length. What is the area of the front face of the MP3 player? Show your work.

$2\frac{1}{2} \times 2\frac{3}{16}$

$\frac{5}{2} \times \frac{35}{16}$

$2\frac{1}{2} \times \frac{7}{8}$

$\frac{5}{2} \times \frac{7}{8}$ $\frac{35}{16}$ $2\frac{3}{16}$ $\frac{175}{32}$ $5\frac{15}{32}$

Name ____________________ Chapter 7

Hours of Sound

$1:4{,}6 = 3+2 = 5+1 = 6$

Ivan loves music and listens to his favorite songs on his MP3 player.

1. Ivan has 4 hours of music on his MP3 player. Jazz makes up $\frac{1}{6}$ of the total time.
   a. How many hours of jazz are on Ivan's MP3 player? Show your work.

   $\frac{1}{6} \times \frac{4}{1} = \frac{4}{6} = \frac{2}{3}$ hour

   b. Are there more than or less than 60 minutes of jazz on Ivan's MP3 player? Explain how you know.

   More than If there is 60 min that equals 1 hour but there is 4 hours of music on it.

   c. $\frac{2}{5}$ of the jazz is by musicians from New Orleans. How many hours of New Orleans jazz does Ivan have? Show your work.

   $\frac{2}{5}$

2. On Ivan's MP3 player, $\frac{5}{6}$ of the 4 hours of music is rock and hip-hop.
   a. How many hours of rock and hip-hop does Ivan have?

   1 Left of six

   b. Ivan's sister Miranda says $\frac{15}{18}$ of the 4 hours of music is rock and hip-hop. Is she correct? Explain how you know.

   yes yes she is because three is the answer add 3 to 15 it equals 18 so yes she is right

   $\frac{5}{6} \cdot \frac{3}{3} = \frac{15}{18}$

3. Ivan plans to reorganize the music on his MP3 player. After the changes he is planning, he will have $2\frac{4}{5}$ times as many hours of rock and hip-hop music on his MP3 player.
   a. Is Ivan planning to add or remove rock and hip-hop music from his MP3 player? Explain how you know.

   he would add because he just has 1 3/5 to Add of pop or hip hop music to Add.

   b. How many hours of rock and hip-hop will Ivan have after he makes the changes? Show your work.

   He will have about 4 wholes $4\frac{3}{5}$

   $2\frac{2}{5} + 2 = 4\frac{2}{5}$

4. The front face of Ivan's MP3 player is a rectangle that is $2\frac{1}{2}$ inches long. The width is $\frac{7}{8}$ of the length. What is the area of the front face of the MP3 player? Show your work.

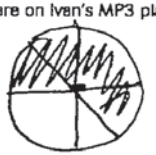
   $3\frac{6}{16}$

Name _____ Chapter 7

Hours of Sound

Ivan loves music and listens to his favorite songs on his MP3 player.

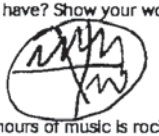
1. Ivan has 4 hours of music on his MP3 player. Jazz makes up $\frac{1}{8}$ of the total time.
   a. How many hours of jazz are on Ivan's MP3 player? Show your work.

   $\frac{4}{6}$ 

   b. Are there more than or less than 60 minutes of jazz on Ivan's MP3 player? Explain how you know.

   more. because it says 4 hours.

   c. $\frac{2}{3}$ of the jazz is by musicians from New Orleans. How many hours of New Orleans jazz does Ivan have? Show your work.

   $\frac{6}{3}$ 

2. On Ivan's MP3 player, $\frac{5}{8}$ of the 4 hours of music is rock and hip-hop.
   a. How many hours of rock and hip-hop does Ivan have?

   $\frac{1}{6}$ 

   b. Ivan's sister Miranda says $\frac{15}{18}$ of the 4 hours of music is rock and hip-hop. Is she correct? Explain how you know.

   no cause it says Right above

3. Ivan plans to reorganize the music on his MP3 player. After the changes he is planning, he will have $2\frac{4}{8}$ times as many hours of rock and hip-hop music on his MP3 player.
   a. Is Ivan planning to add or remove rock and hip-hop music from his MP3 player? Explain how you know.

   Remove. It says 2.

   b. How many hours of rock and hip-hop will Ivan have after he makes the changes? Show your work.

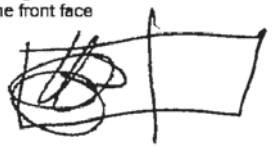
   1 hr

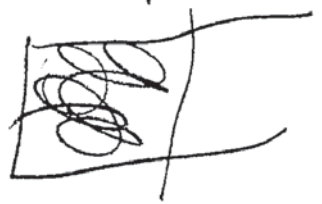
   5 - 6 = 1

   5 - 4 = 1

4. The front face of Ivan's MP3 player is a rectangle that is $2\frac{1}{2}$ inches long. The width is $\frac{7}{8}$ of the length. What is the area of the front face of the MP3 player? Show your work.

   $\frac{7}{8} = 1\,2$

   $2\frac{1}{2}$ 

   1 

   1 + 1 - 2

Name _____

Chapter 8 Test
Page 1

1. A 6-mile walking trail has a distance marker every $\frac{1}{3}$ mile. How many markers are along the trail?

There are 18 markers along the trail.

2. For numbers 2a–2e, select True or False for each equation.

2a.	$\frac{1}{6} \div 2 = 12$	○ True	● False
2b.	$5 \div \frac{1}{4} = \frac{1}{20}$	○ True	● False
2c.	$\frac{1}{3} \div 8 = \frac{1}{24}$	● True	○ False
2d.	$\frac{1}{8} \div 5 = 40$	○ True	● False
2e.	$4 \div \frac{1}{7} = 28$	● True	○ False

3. Ten pounds of rice are distributed equally into 6 bags to give out at the food bank. How many pounds of rice are in each bag?

$\frac{5}{3}$ or $1\frac{2}{3}$ pounds

4. Eric has 4 pieces of clay. He cut each piece of clay into thirds. How many $\frac{1}{3}$-size pieces of clay does Eric have? Draw lines in the model to find the answer.

Eric has 12 $\frac{1}{3}$-size pieces of clay.

5. Four friends share 3 apples equally. What fraction of an apple does each friend get?

Each friend will get $\frac{3}{4}$ of an apple.

GO ON

Name _____

Chapter 8 Test
Page 2

6. Tammy, Marci, and Wesley bought $\frac{1}{2}$ pound of raspberries. They are sharing the raspberries equally. Each person will receive $\frac{1}{6}$ pound of raspberries.

7. Choose the numbers to create a story problem that represents $3 \div \frac{1}{4}$.

Rob bought [$\frac{1}{3}$ / $\frac{1}{4}$ / (3)] pounds of roast beef.

He made sandwiches for a picnic and used [4 / ($\frac{1}{4}$) / $\frac{1}{3}$] pound of roast beef in each sandwich.

Rob made 12 sandwiches.

8. Ruslan reads $\frac{1}{3}$ of a book every day. Victoria reads $\frac{1}{4}$ of a book every day.

Part A

Ruslan needs to read 4 books for class. How long would it take Ruslan to read 4 books?

$4 \div \frac{1}{3} = 4 \times 3 = 12$
It would take Rulsan 12 days to read 4 books.

Part B

How much longer would it take Victoria than Ruslan to read 10 books? Explain how you found your answer.

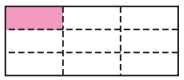
10 days; Possible explanation: First, I found the time it would take Ruslan to read 10 books: $10 \div \frac{1}{3} = 10 \times 3 = 30$, or 30 days. Then, I found the time it would take Victoria to read 10 books: $10 \div 4 = 10 \times 4 = 40$, or 40 days. Then I subtracted $40 - 30 = 10$.

GO ON

Name _____

Chapter 8 Test
Page 3

9. Cecila has $\frac{1}{3}$ pound of trail mix that she will divide equally into 3 bags. Shade the diagram to show the fractional part of a pound that will be in each bag.



10. Mrs. Reid wrote the following problem on the whiteboard:

Tom and Michele shared $\frac{1}{4}$ pound of grapes equally. What fractional part of a pound did each person receive?

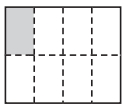
Part A

Christina wrote the following equation to solve the problem: $2 \div \frac{1}{4} = n$. Do you agree with Christina's equation? Support your answer with information from the problem.

No, I disagree. Possible answer: Tom and Michele are sharing $\frac{1}{4}$ pound of grapes. I need to divide $\frac{1}{4}$ by 2, so the correct equation is $\frac{1}{4} \div 2 = n$.

Part B

Ryan drew this diagram to solve the problem. Can Ryan use his diagram to find the fractional part of a pound of grapes that each person received? Support your answer with information from the problem.



Yes. Possible answer: Ryan divided the square into 4 equal parts to represent quarters. Then, he divided each quarter in half. He shaded half of $\frac{1}{4}$ of the square. So, the diagram represents $\frac{1}{4} \div 2 = \frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$. Since $\frac{1}{8}$ of the square is shaded, Tom and Michele will each get $\frac{1}{8}$ pound of grapes.

GO ON

Name _____

Chapter 8 Test
Page 4

11. Divide. Draw a number line to show your work.

$2 \div \frac{1}{5} =$ **10**

12. Terry picked 7 pounds of strawberries. She wants to share the strawberries equally among 3 of her neighbors. How many pounds of strawberries will each neighbor receive? Use the numbers on the tiles to complete the number sentence. You may use a number more than once or not at all.

1 2 3 4 6 7

7 ÷ **3** = $\frac{\textbf{7}}{\textbf{3}}$ = **2** $\frac{\textbf{1}}{\textbf{3}}$

13. Aidan buys one package each of 2-pound, 3-pound, and 4-pound packages of ground turkey to make turkey burgers.

Part A

How many $\frac{1}{3}$-pound turkey burgers can he make? Show your work using words, pictures, or numbers.

Check students' work. 27 turkey burgers; Possible explanation: I found the total number of pounds of ground turkey Aidan bought: 2 + 3 + 4 = 9. Then, I wrote a related multiplication expression to find $9 \div \frac{1}{3}$. $9 \div \frac{1}{3} = 9 \times 3 = 27$

14. Annette has $\frac{1}{4}$ yard of fabric. She cuts it into 3 equal pieces. Each piece of fabric is $\frac{\textbf{1}}{\textbf{12}}$ yard.

GO ON

Name _____ **Chapter 8 Test Page 5**

15. Twelve friends share 4 bread rolls equally. What fraction of a bread roll does each friend get?

Each friend will get $\frac{4}{12}$ or $\frac{1}{3}$ of a bread roll.

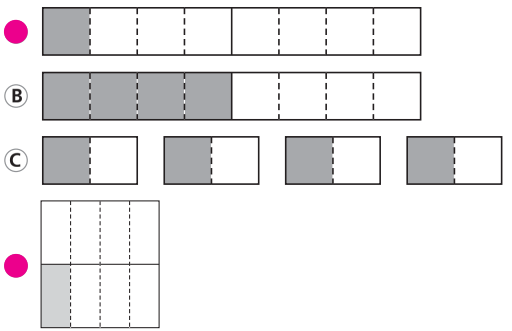
16. Ben is making bread that calls for 5 cups of flour. His measuring cup only holds $\frac{1}{2}$ cup. How many times will Ben need to fill the measuring cup to get the 5 cups of flour?

Ben will need to fill the measuring cup 10 times.

17. Tina has $\frac{1}{2}$ quart of iced tea. She pours the same amount into each of 3 glasses. Which equation represents the fraction of a quart of iced tea that is in each glass? Mark all that apply.

- (A) $\frac{1}{2} \div \frac{1}{3} = n$
- (B) $2 \div 3 = n$
- (C) $2 \div \frac{1}{3} = n$
- ● $\frac{1}{2} \times \frac{1}{3} = n$
- (E) $2 \times \frac{1}{3} = n$
- ● $\frac{1}{2} \div 3 = n$

18. Kyle made a loaf of banana bread. He gave equal portions of $\frac{1}{2}$ of the loaf to 4 friends. Which diagram could Kyle use to find the fraction of the loaf that each friend received? Mark all that apply.



● (B) (C) ●

GO ON

Name _____ **Chapter 8 Test Page 6**

19. Your teacher gives you the problem $5 \div \frac{1}{4}$.

Part A

Draw a diagram to represent $5 \div \frac{1}{4}$.

Possible diagram:

Part B

Write a story problem to represent $5 \div \frac{1}{4}$. **Check students' story problems.**

Possible problem: Sam has 5 feet of string. He cuts the string into pieces that are $\frac{1}{4}$ foot long. How many pieces of string does he have now?

Part C

Use a related multiplication expression to solve your story problem. Show your work. **Check students' work.**

$5 \div \frac{1}{4} = 5 \times 4 = 20$; 20 pieces

20. Five brothers picked 5 pounds of apples. Two of the brothers will share 3 pounds of apples equally and the other 3 brothers will share 2 pounds of the apples equally. In which group does each brother get a greater amount of apples? Explain your reasoning.

The group of 2 brothers will get a greater amount of apples. Possible explanation: $3 \div 2 = \frac{3}{2}$ and $2 \div 3 = \frac{2}{3}$
$\frac{3}{2} = 1\frac{1}{2}$
$1\frac{1}{2} > \frac{2}{3}$

STOP

Name _____ **Chapter 8**

Trail Teamwork

Ava, Jayden, Edwina, Lexi, Luis, and Trina are helping clean up a hiking trail during the summer.

1. The trail is 10 miles long. Each person is in charge of an equal part of the trail.
   a. What fraction of the trail is Ava in charge of? Write your answer in simplest form.

$\frac{1}{6} \times \frac{10}{1} = \frac{10}{6} = 1\frac{4}{6} = 1\frac{2}{3}$

$\frac{5}{3}$ miles of the trail

   b. Write a division equation you could use to find a, the number of miles of trail that Ava is in charge of. What is the value of a? Show your work. Write your answer in simplest form.

$6\overline{)10}$ R 4

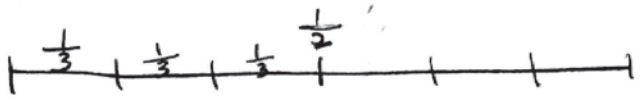
$10 \div 6 = a$

$10 \div 4 = 1\frac{4}{6} = 1\frac{2}{3}$

2. In the first $\frac{1}{2}$ mile of the trail, Jayden posts 3 signs that describe local birds. If the signs are an equal distance apart, what is the distance between the second and third signs? Show your work.

$\frac{1}{6}$ mile

$\frac{1}{2} \div 3 = \frac{1}{2} \times \frac{1}{3} = \frac{1}{6}$



3. Edwina, Lexi, and Luis plant a tree every $\frac{1}{4}$ of a mile along the trail.
   a. Write and evaluate a division expression to find the number of trees they will plant. Show your work. Write your answer in simplest form.

$10 \div \frac{1}{4}$ 40 trees

$10 \div \frac{1}{4} = 10 \times 4 = 40$

   b. Trina brings 6 cubic yards of compost for planting the trees. Each tree needs to be planted with $\frac{1}{6}$ cubic yards of compost. Will there be enough compost to plant all the trees? If yes, how many extra trees can they plant? If no, how many trees can they plant? Show your work.

No only have enough for 36

$6 \div \frac{1}{6} = 6 \times 6 = 36$

$40 - 36 = 4$

Name _____ **Chapter 8**

Trail Teamwork

Ava, Jayden, Edwina, Lexi, Luis, and Trina are helping clean up a hiking trail during the summer.

1. The trail is 10 miles long. Each person is in charge of an equal part of the trail.
   a. What fraction of the trail is Ava in charge of? Write your answer in simplest form.

   5
   2|10 (5/3)

   b. Write a division equation you could use to find a, the number of miles of trail that Ava is in charge of. What is the value of a? Show your work. Write your answer in simplest form.

   1/5

   4|12, (4)4
   8|12:1, (8)8

   1/2 ÷ 3 = 1/2 x 1/3 = (1/5)

2. In the first $\frac{1}{2}$ mile of the trail, Jayden posts 3 signs that describe local birds. If the signs are an equal distance apart, what is the distance between the second and third signs? Show your work.

   6
   1/2 | 3

   6 x 6 (36)

   1 1/2 + 1/2 = 2
   3 1/2 + 1/2 = 4
   5 1/2 + 6 1/2 = 12

3. Edwina, Lexi, and Luis plant a tree every $\frac{1}{4}$ of a mile along the trail.
   a. Write and evaluate a division expression to find the number of trees they will plant. Show your work. Write your answer in simplest form.

   8
   1/4 | 10

   1/4 + 1/4 = 2/4
   10 ÷ 1/4 = 10 x 4/1 = (40)

   b. Trina brings 6 cubic yards of compost for planting the trees. Each tree needs to be planted with $\frac{1}{6}$ cubic yards of compost. Will there be enough compost to plant all the trees? If yes, how many extra trees can they plant? If no, how many trees can they plant? Show your work.

   No

   1
   6 | 6

   6 x 6 = 36
   40 - 36 = 4

Name _____ **Chapter 8**

Trail Teamwork

Ava, Jayden, Edwina, Lexi, Luis, and Trina are helping clean up a hiking trail during the summer.

1. The trail is 10 miles long. Each person is in charge of an equal part of the trail.
   a. What fraction of the trail is Ava in charge of? Write your answer in simplest form.

$6\overline{)10}$ 1 R4

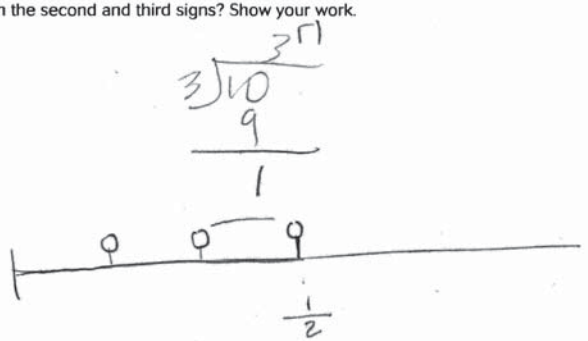
$\frac{1}{4}$

   b. Write a division equation you could use to find a, the number of miles of trail that Ava is in charge of. What is the value of a? Show your work. Write your answer in simplest form.

$a \div 10 =$

2. In the first $\frac{1}{2}$ mile of the trail, Jayden posts 3 signs that describe local birds. If the signs are an equal distance apart, what is the distance between the second and third signs? Show your work.

$3\overline{)10}$ 3 R1



3. Edwina, Lexi, and Luis plant a tree every $\frac{1}{4}$ of a mile along the trail.
   a. Write and evaluate a division expression to find the number of trees they will plant. Show your work. Write your answer in simplest form.

$\frac{1}{4} \div 10 =$

$\frac{1}{4} \times 10 =$

10 miles
4 trees in a mile
40 trees

   b. Trina brings 6 cubic yards of compost for planting the trees. Each tree needs to be planted with $\frac{1}{6}$ cubic yards of compost. Will there be enough compost to plant all the trees? If yes, how many extra trees can they plant? If no, how many trees can they plant? Show your work.

yes, zero extra

6 $\frac{1}{6}$

Name _____ **Chapter 8**

Trail Teamwork

Ava, Jayden, Edwina, Lexi, Luis, and Trina are helping clean up a hiking trail during the summer.

1. The trail is 10 miles long. Each person is in charge of an equal part of the trail.
   a. What fraction of the trail is Ava in charge of? Write your answer in simplest form.

$\frac{6}{10}$

   b. Write a division equation you could use to find a, the number of miles of trail that Ava is in charge of. What is the value of a? Show your work. Write your answer in simplest form.

5 | 10

$a = 5$

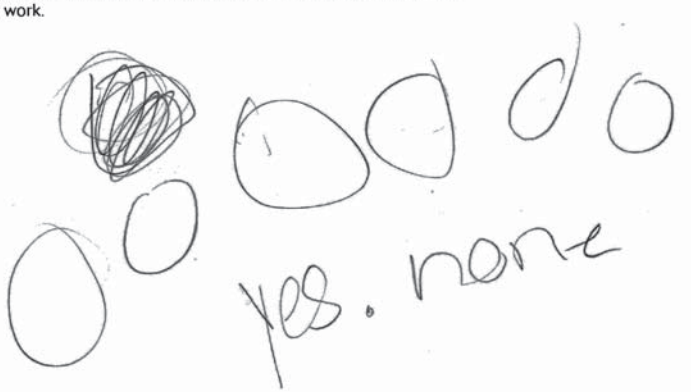
2. In the first $\frac{1}{2}$ mile of the trail, Jayden posts 3 signs that describe local birds. If the signs are an equal distance apart, what is the distance between the second and third signs? Show your work.

2

3. Edwina, Lexi, and Luis plant a tree every $\frac{1}{4}$ of a mile along the trail.
   a. Write and evaluate a division expression to find the number of trees they will plant. Show your work. Write your answer in simplest form.

$\frac{1}{4} \overline{)\ 3}$ 8

   b. Trina brings 6 cubic yards of compost for planting the trees. Each tree needs to be planted with $\frac{1}{6}$ cubic yards of compost. Will there be enough compost to plant all the trees? If yes, how many extra trees can they plant? If no, how many trees can they plant? Show your work.



Name _____ CRITICAL AREA Operations with Fractions

Alberto's Fish Tank

Alberto gets a fish-tank kit for his birthday. The kit comes with a 15-gallon tank, bags of colored gravel, and water-cleaning drops. Use this information to answer questions 1–4. Show your work. Write all answers in simplest form.

1. The chart below shows how much of each color of gravel Alberto puts in the bottom of his fish tank.

Color	Black	Gray	White	Yellow
Gravel (pounds)	$7\frac{1}{4}$	$5\frac{7}{8}$	$4\frac{1}{2}$	$3\frac{1}{8}$

a. How many pounds of gravel does Alberto put in the tank?

$7\frac{1}{4} + 5\frac{7}{8} + 4\frac{1}{2} + 3\frac{1}{8} =$

$19 + 1\frac{3}{4} = 20\frac{3}{4}$ pounds

$7 + 5 + 4 + 3 = 19$

$\frac{1}{4} + \frac{7}{8} + \frac{1}{2} + \frac{1}{8} =$

$\frac{2}{8} + \frac{7}{8} + \frac{4}{8} + \frac{1}{8} = \frac{14}{8} = 1\frac{6}{8} = 1\frac{3}{4}$

b. Each color of gravel comes in an $8\frac{1}{2}$-pound bag. How many pounds of gravel should Alberto have left after putting in all of the colored gravel?

$8\frac{1}{2}\frac{2}{4}$ $8\frac{1}{2}\frac{4}{8}$ $8\frac{1}{2}$ $8\frac{1}{2}\frac{4}{8}$

$-7\frac{1}{4}$ $-5\frac{7}{8}$ $-4\frac{1}{2}$ $-3\frac{1}{8}$

$1\frac{1}{4} + 2\frac{5}{8} + 4 + 5\frac{3}{8}$

$1 + 2 + 4 + 5 = 12$

$\frac{1}{4} + \frac{5}{8} + \frac{3}{8} =$

$\frac{2}{8} + \frac{5}{8} + \frac{3}{8} = \frac{10}{8} = 1\frac{2}{8}$

$12 + 1\frac{2}{8} =$

$13\frac{2}{8}$

$13\frac{1}{4}$ pounds left

2. Once the gravel is in place, Alberto puts 15 gallons of water in his fish tank.

a. During the first week, $\frac{3}{40}$ of the water in the tank evaporates. How much water is left in the fish tank?

$\frac{15}{1} \times \frac{3}{40} = \frac{45}{40} = 1\frac{5}{40} = 1\frac{1}{8}$ evaporates

$15 - 1\frac{1}{8}$

$14\frac{8}{8}$
$-\ 1\frac{1}{8}$
$13\frac{7}{8}$ gallons left

b. Alberto adds enough water to bring the tank back up to 15 gallons of water. Then he adds water-cleaning drops to the 15 gallons of water in the tank. The directions say to use 1 drop for each $\frac{1}{4}$ gallon of water. After putting in $\frac{2}{3}$ of the total drops needed, Alberto has to stop and answer his phone. How many more drops does Alberto still need to add to the water? Explain how you found your answer.

Alberto still needs to add 20 drops. He needs 60 in all and he put in 40 before the phone call.

4 drops per gallon. $15 \times 4 = 60$ drops in all.

$\frac{15}{1} \times \frac{2}{3} = \frac{30}{3} = 10$ gallons $10 \times 4 = 40$ drops so far.

$60 - 40 = 20$ left

3. Alberto puts 3 kinds of fish in his fish tank: zebra danios, fancy guppies, and catfish. Half of Alberto's fish are zebra danios. He has 2 times as many catfish as he has fancy guppies.

a. Alberto's friend Jackson says that $\frac{1}{3}$ of Alberto's fish are catfish. Is Jackson correct? Draw a diagram and explain your answer.

yes Jackson is correct

$\frac{1}{2}$ are zebra danios. The other 2 fish need to add to get $\frac{1}{2}$.

$\frac{1}{3} + ? = \frac{1}{2}$ I drew a diagram.

zebra catfish guppies

$\frac{1}{2}$ $\frac{1}{3}$ $? \frac{1}{6}$

12 8 4

$\frac{2}{6} + \frac{1}{6} = \frac{3}{6} = \frac{1}{2}$

b. One of Alberto's zebra danios is $\frac{4}{3}$ the length of one of his fancy guppies. Which fish is longer? Explain how you know.

If the zebra is more than 1 whole longer than a guppy, it is longer. $\frac{4}{3}$ is more than a whole. $\frac{4}{3}$ is $1\frac{1}{3}$ $1\frac{1}{3} > 1$

4. Alberto feeds his fish the same amount of food each day. A 2-ounce jar of fish-food flakes has enough food for Alberto to feed his fish for 100 days.

a. How many ounces of food will Alberto need for 110 days? Explain how you found your answer.

($\frac{1}{10}$ of a 2 ounce jar + the 2 ounce jar

$\frac{1}{10} \times \frac{2}{1} = \frac{2}{10} = \frac{1}{5}$)

$2\frac{1}{5}$ ounces

$\frac{2}{100} = \frac{1}{50}$ ounce a day

$\frac{1}{50} \times \frac{10}{1} = \frac{1}{5}$ for 10 days

b. Alberto is thinking of buying a jar of fish-food flakes that will last 110 days. If he does not change the number of fish, how many of these jars of fish-food flakes would Alberto need to buy in 1 year?

1 year is 365 days

3 jars + more

110
110
110
330 +

So Alberto will need 4 jars.

Name _____ CRITICAL AREA Operations with Fractions

Alberto's Fish Tank

Alberto gets a fish-tank kit for his birthday. The kit comes with a 15-gallon tank, bags of colored gravel, and water-cleaning drops. Use this information to answer questions 1–4. Show your work. Write all answers in simplest form.

1. The chart below shows how much of each color of gravel Alberto puts in the bottom of his fish tank.

Color	Black	Gray	White	Yellow
Gravel (pounds)	$7\frac{1}{4}$	$5\frac{7}{8}$	$4\frac{1}{2}$	$3\frac{1}{8}$

a. How many pounds of gravel does Alberto put in the tank?

$7\frac{2}{8} + 5\frac{7}{8} + 4\frac{4}{8} + 5\frac{1}{8} = 20\frac{3}{4}$ lbs

b. Each color of gravel comes in an $8\frac{1}{2}$-pound bag. How many pounds of gravel should Alberto have left after putting in all of the colored gravel?

$8\frac{2}{4} - 7\frac{1}{4} = 1\frac{1}{4}$

$8\frac{4}{8} - 5\frac{7}{8} = 2\frac{5}{8}$

$8\frac{1}{2} - 4\frac{1}{2} = 4$

$8\frac{4}{8} - 3\frac{1}{8} = +5\frac{3}{8}$

$12\frac{1}{4}$ lbs left

2. Once the gravel is in place, Alberto puts 15 gallons of water in his fish tank.

a. During the first week, $\frac{3}{40}$ of the water in the tank evaporates. How much water is left in the fish tank?

$\frac{40}{40} - \frac{3}{40} = \frac{37}{40} \times 15 = 13\frac{7}{8}$ gallons

b. Alberto adds enough water to bring the tank back up to 15 gallons of water. Then he adds water-cleaning drops to the 15 gallons of water in the tank. The directions say to use 1 drop for each $\frac{1}{4}$ gallon of water. After putting in $\frac{2}{3}$ of the total drops needed, Alberto has to stop and answer his phone. How many more drops does Alberto still need to add to the water? Explain how you found your answer.

$\frac{1}{4} \times 4 = 1$ gallon $\times 15 = 15$ gallons

$1 \times 4 \times 15 = 60$ drops

$60 \times \frac{2}{3} = 40$ drops

$60 - 40 = 20$ drops

3. Alberto puts 3 kinds of fish in his fish tank: zebra danios, fancy guppies, and catfish. Half of Alberto's fish are zebra danios. He has 2 times as many catfish as he has fancy guppies.

a. Alberto's friend Jackson says that $\frac{1}{3}$ of Alberto's fish are catfish. Is Jackson correct? Draw a diagram and explain your answer.

$\frac{1}{2}$ zebra $\frac{1}{2}$ catfish + gup

$\frac{1}{6}$ gup + $\frac{2}{6}$ cat + $\frac{3}{6}$ zeb = 1

correct

b. One of Alberto's zebra danios is $\frac{4}{3}$ the length of one of his fancy guppies. Which fish is longer? Explain how you know.

zebra danios because $\frac{4}{3} > 1$

4. Alberto feeds his fish the same amount of food each day. A 2-ounce jar of fish-food flakes has enough food for Alberto to feed his fish for 100 days.

a. How many ounces of food will Alberto need for 110 days? Explain how you found your answer.

~~100 = 110~~ ~~2 = x~~ $\frac{220}{100} = x$ 2.202

2.2
100 | 220
200
200

b. Alberto is thinking of buying a jar of fish-food flakes that will last 110 days. If he does not change the number of fish, how many of these jars of fish-food flakes would Alberto need to buy in 1 year?

$\frac{365}{110} = 3.3$

4 jars

Name _____ CRITICAL AREA Operations with Fractions

Alberto's Fish Tank

Alberto gets a fish-tank kit for his birthday. The kit comes with *a 15-gallon tank, bags of colored gravel, and water-cleaning drops.* Use this information to answer questions 1–4. Show your work. Write all answers in simplest form.

1. The chart below shows how much of each color of gravel Alberto puts in the bottom of his fish tank.

Color	Black	Gray	White	Yellow
Gravel (pounds)	$7\frac{1}{4}$	$5\frac{7}{8}$	$4\frac{1}{2}$	$3\frac{1}{8}$

a. How many pounds of gravel does Alberto put in the tank?

$20\frac{6}{8}$ lbs

b. Each color of gravel comes in an $8\frac{1}{2}$-pound bag. How many pounds of gravel should Alberto have left after putting in all of the colored gravel?

$2\frac{15}{34}$ lbs

$20\frac{6}{8} \div 8\frac{1}{2}$

$\frac{166}{8} \cdot \frac{1}{17} = \frac{166}{68} = 2\frac{30}{68} = 2\frac{15}{34}$

2. Once the gravel is in place, Alberto puts 15 gallons of water in his fish tank.

a. During the first week, $\frac{3}{40}$ of the water in the tank evaporates. How much water is left in the fish tank?

$13\frac{7}{8}$ gallons

b. Alberto adds enough water to bring the tank back up to 15 gallons of water. Then he adds water-cleaning drops to the 15 gallons of water in the tank. The directions say to use 1 drop for each $\frac{1}{4}$ gallon of water. After putting in $\frac{2}{3}$ of the total drops needed, Alberto has to stop and answer his phone. How many more drops does Alberto still need to add to the water? Explain how you found your answer.

Alberto still needs to add 20 drops. First I figured out how many drops are needed (÷ 15 by $\frac{1}{4}$) then I figured out $\frac{2}{3}$ of that # (60 - total · $\frac{2}{3}$ = 40) then, finally I subtracted 40 from 60 to get a final answer of 20 drops.

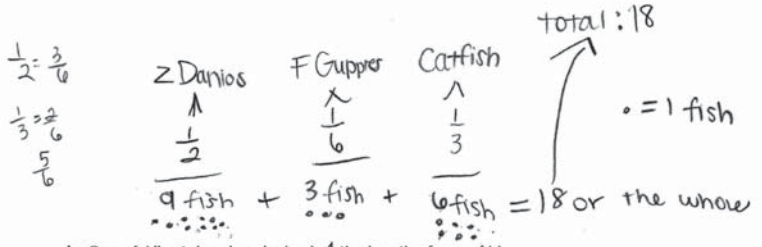
$\frac{15}{1} \cdot \frac{4}{1} = 60$

$\frac{60}{1} \cdot \frac{2}{3} = \frac{120}{3} = 40$

3. Alberto puts 3 kinds of fish in his fish tank: zebra danios, fancy guppies, and catfish. Half of Alberto's fish are zebra danios. He has 2 times as many catfish as he has fancy guppies.

a. Alberto's friend Jackson says that $\frac{1}{3}$ of Alberto's fish are catfish. Is Jackson correct? Draw a diagram and explain your answer.

Jackson is correct, because if $\frac{1}{2}$ of the fish are zebra danios and $\frac{1}{3}$ are catfish and since the guppies are $\frac{1}{2}$ of the catfish which is $\frac{1}{6}$, when you add them together the sum is 1 whole.



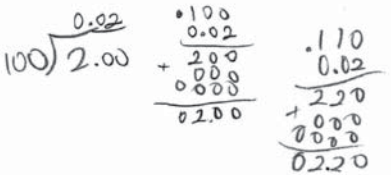
b. One of Alberto's zebra danios is $\frac{4}{3}$ the length of one of his fancy guppies. Which fish is longer? Explain how you know.

The zebra danios is longer, because $\frac{4}{3}$ is $1\frac{1}{3}$, which is larger than a whole, the whole being a fancy guppy

4. Alberto feeds his fish the same amount of food each day. A 2-ounce jar of fish-food flakes has enough food for Alberto to feed his fish for 100 days.

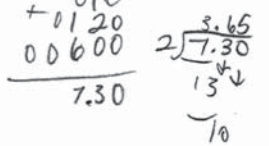
a. How many ounces of food will Alberto need for 110 days? Explain how you found your answer.

Alberto will need 112.2 oz of food, In order to solve, 1st I needed to find the total amounts of oz needed for 1 day, so I did 2 ÷ 100 and got an answer of 0.02. Then I multiplied that by 110, the # of days, to get a final answer of 112.2oz



b. Alberto is thinking of buying a jar of fish-food flakes that will last 110 days. If he does not change the number of fish, how many of these jars of fish-food flakes would Alberto need to buy in 1 year?

4 jars



Name _____ CRITICAL AREA Operations with Fractions

Alberto's Fish Tank

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1. The chart below shows how much of each color of gravel Alberto puts in the bottom of his fish tank.

Color	Black	Gray	White	Yellow
Gravel (pounds)	$7\frac{1}{4}$	$5\frac{7}{8}$	$4\frac{1}{2}$	$3\frac{1}{8}$

a. How many pounds of gravel does Alberto put in the tank?

7
5
+ 3
19

about 20 pounds

b. Each color of gravel comes in an $8\frac{1}{2}$-pound bag. How many pounds of gravel should Alberto have left after putting in all of the colored gravel?

$8\frac{1}{2}$ none

2. Once the gravel is in place, Alberto puts 15 gallons of water in his fish tank.
   a. During the first week, $\frac{3}{40}$ of the water in the tank evaporates. How much water is left in the fish tank?

14 gallons

b. Alberto adds enough water to bring the tank back up to 15 gallons of water. Then he adds water-cleaning drops to the 15 gallons of water in the tank. The directions say to use 1 drop for each $\frac{1}{4}$ gallon of water. After putting in $\frac{2}{3}$ of the total drops needed, Alberto has to stop and answer his phone. How many more drops does Alberto still need to add to the water? Explain how you found your answer.

4 drops in a gallon

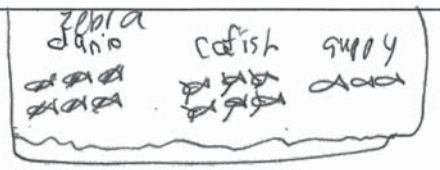
60 drops

15

3. Alberto puts 3 kinds of fish in his fish tank: zebra danios, fancy guppies, and catfish. Half of Alberto's fish are zebra danios. He has 2 times as many catfish as he has fancy guppies.

a. Alberto's friend Jackson says that $\frac{1}{3}$ of Alberto's fish are catfish. Is Jackson correct? Draw a diagram and explain your answer.

yes $\frac{1}{3}$ cuz he has 3 kinds of fish



b. One of Alberto's zebra danios is $\frac{4}{3}$ the length of one of his fancy guppies. Which fish is longer? Explain how you know.

yes, zebra is longer

$\frac{4}{3}$ is biger than $\frac{3}{3}$

4. Alberto feeds his fish the same amount of food each day. A 2-ounce jar of fish-food flakes has enough food for Alberto to feed his fish for 100 days.

a. How many ounces of food will Alberto need for 110 days? Explain how you found your answer.

100 x 2 = 200 ounces

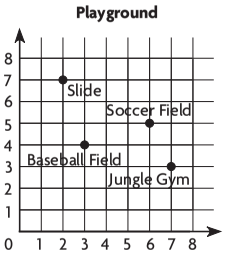
I multiplid

b. Alberto is thinking of buying a jar of fish-food flakes that will last 110 days. If he does not change the number of fish, how many of these jars of fish-food flakes would Alberto need to buy in 1 year?

Name _____

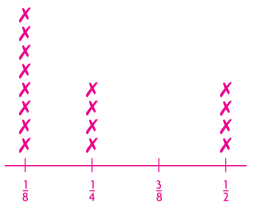
Chapter 9 Test
Page 1

1. The coordinate grid represents the school playground. Which of the following accurately describes the location of a playground area? Mark all that apply.



- (A) The slide is 2 units left and 4 units up from the soccer field.
- (B) The baseball field is 1 unit left and 3 units down from the slide.
- ● The jungle gym is 4 units right and 1 unit down from the baseball field.
- ● The soccer field is 3 units right and 1 unit up from the baseball field.

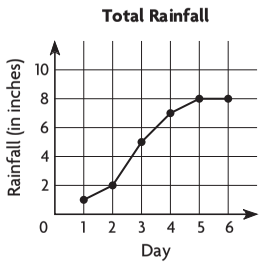
2. Amy filled bags with mixed nuts. The weights of the bags are $\frac{1}{8}$-lb, $\frac{1}{4}$-lb, $\frac{1}{8}$-lb, $\frac{1}{2}$-lb, $\frac{1}{8}$-lb, $\frac{1}{4}$-lb, $\frac{1}{8}$-lb, $\frac{1}{2}$-lb, $\frac{1}{8}$-lb, $\frac{1}{4}$-lb, $\frac{1}{8}$-lb, $\frac{1}{2}$-lb, $\frac{1}{8}$-lb, $\frac{1}{8}$-lb, $\frac{1}{4}$-lb, and $\frac{1}{2}$-lb. Organize the information in a line plot.



What is the average weight of the bags?

$\frac{1}{4}$ pound(s)

3. For 6 days in a row, Alyssa recorded the total amount of rain collected in a rain gauge in her yard. The line graph shows her data. Between which two days did the amount of rain collected increase the least?



between Day 5 and Day 6

GO ON

Name _____

Chapter 9 Test
Page 2

4. The table shows two sequences of numbers.

Day	1	2	3	4	5
Number of CDs Sold	2	4	6	8	10
Amount Earned ($)	10	20	30	40	?

For numbers 4a–4b, choose the correct values to describe how one sequence is related to the other.

4a. The unknown number in Day 5 is (50) / 60 / 75.

4b. The rule that describes how the number of CDs sold relates to the amount earned is add 8 / (multiply by 5) / multiply by 10.

5. Wanda made a table to figure out how much flour she uses to make muffins.

Flour in Muffins

Batches	1	2	3	4	...	6
Number of Ounces of Flour	8	16	24	32	...	48
Number of Muffins	16	32	48	64	...	?

Part A

Write a rule that relates the number of muffins to the number of ounces of flour. Explain how you can check your rule.

Possible answer: The rule is multiply by 2. I can check by multiplying the number of ounces of flour used in each batch by 2. The product will equal the number of muffins in the table.

Part B

How many muffins will Wanda make if she makes 6 batches?

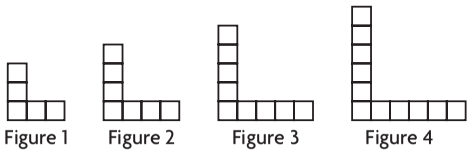
96 muffins

GO ON

Name _____

Chapter 9 Test
Page 3

6. Look for a pattern.



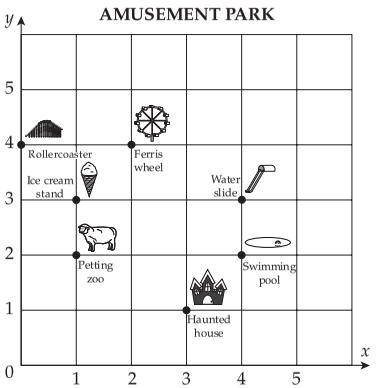
What is the rule? add 2

How many squares will there be in Figure 5? 13 squares

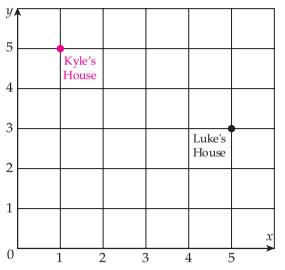
7. The map shows the locations of attractions at an amusement park. Match each location below with the correct ordered pair that marks it on the map. Not every ordered pair will be used.

Ferris Wheel
Swimming Pool
Rollercoaster
Petting Zoo
Water Slide

(0, 4)
(2, 4)
(4, 3)
(4, 0)
(4, 2)
(3, 4)
(1, 2)



8. Luke's house is located at the point shown on the coordinate grid. Kyle's house is located 4 units left and 2 units up from Luke's house. Plot a point on the coordinate grid to represent the location of Kyle's house.



What ordered pair represents the location of Luke's house? (5, 3)

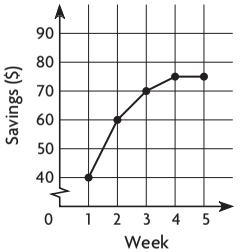
What ordered pair represents the location of Kyle's house? (1, 5)

GO ON

Name _____

Chapter 9 Test
Page 4

9. Julia saves some of the money she earns from babysitting. The line graph shows the amount in Julia's savings account for the first 5 weeks of the year.

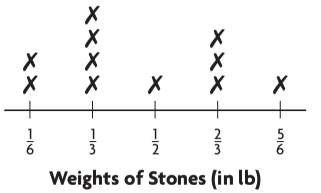


For numbers 9a–9b, select True or False for each statement.

9a. Julia's savings increased from $40 to $80 over the 5-week period. ○ True ● False

9b. The greatest increase in Julia's savings occurred from Week 1 to Week 2. ● True ○ False

10. The line plot shows the weights of stones found in a stream. What is the average weight of the stones? Show your work.



$\frac{5}{11}$ pound;
$\frac{1}{6} \times 2 = \frac{2}{6}$ or $\frac{1}{3}$; $\frac{1}{3} \times 4 = \frac{4}{3}$ or $1\frac{1}{3}$; $\frac{1}{2}$; $\frac{2}{3} \times 3 = \frac{6}{3}$ or 2; $\frac{5}{6}$
$\frac{1}{3} + 1\frac{1}{3} + \frac{1}{2} + 2 + \frac{5}{6} = 5$
$5 \div 11 = \frac{5}{11}$

11. The table shows the height of a hot air balloon from 1 minute to 5 minutes.

Height of Hot Air Balloon					
Time (in minutes)	1	2	3	4	5
Height (in feet)	35	60	92	120	175

What ordered pairs would you plot to show the data on a coordinate grid? How do you think the ordered pairs would be different if the height of the balloon was measured every 15 seconds instead of every minute? Explain your reasoning.

(1, 35), (2, 60), (3, 92), (4, 120), (5, 175); Possible answer: There would be many more ordered pairs since there would be 4 height measurements each minute. Also, the heights of the hot air balloon would be closer to each other since the measurements were taken more frequently.

GO ON

Name _____ Chapter 9 Test Page 5

12. Kelly recorded the total number of sit-ups she did each minute for 4 minutes.

Time (minutes)	1	2	3	4
Number of Sit-ups	35	70	105	140

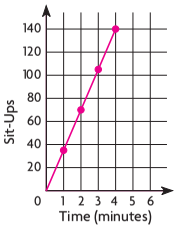
Part A

Write the number pairs as ordered pairs. Then write the rule to describe how the number pairs are related.

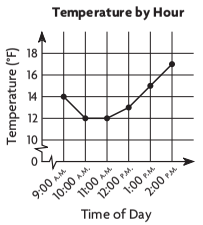
(1, 35), (2, 70), (3, 105), (4, 140); Rule: multiply the number of minutes by 35.

Part B

Graph the ordered pairs on the coordinate plane.



13. Edwin recorded the temperature, in degrees Fahrenheit, every hour for 6 hours. He used this data to make a line graph.



For numbers 13a–13c, select True or False for each statement.

13a. The greatest temperature is at 2:00 P.M. — ● True ○ False

13b. Beginning at noon, the temperature increased by 2°F each hour. — ● True ○ False

13c. The temperature was the same at 11:00 A.M. and 12:00 P.M. — ○ True ● False

GO ON

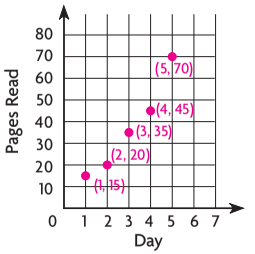
Name _____ Chapter 9 Test Page 6

14. The table shows the total number of pages of a book that Bryan has read each day for 5 days.

Days	1	2	3	4	5
Pages Read	15	20	35	45	70

Graph the ordered pairs from the tiles on the coordinate grid.

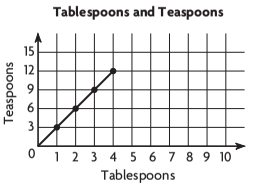
- (1, 15)
- (2, 20)
- (3, 35)
- (4, 45)
- (5, 70)



15. The graph shows the relationship between tablespoons and teaspoons. Determine a rule that relates the number of tablespoons to the number of teaspoons by writing the correct term or value from the tiles in each blank.

Subtract | Add | Multiply | Divide

1 | 2 | 3 | $\frac{1}{2}$ | $\frac{1}{3}$



Rule: Multiply the number of tablespoons

by 3.

16. Jamal is buying a new home theater system on layaway for $324. If he pays $54 each week, how many weeks will it take Jamal to pay for the home theater system? How can making a table help you solve the problem?

6 weeks; Possible explanation: I can make a table that shows how much Jamal pays each week and the totals until I reach $324.

STOP

Name _____ Chapter 9

Triathlon Training

Shelly is training for a triathlon. In the triathlon she will ride her bike, run, and swim. Answer questions 1–3. Show your work, and write all fractions in simplest form.

1. Each week Shelly rides her bicycle 3 miles farther than the week before.

Training (weeks)	1	2	3	4	5	6	x 3 =
Riding (miles)	3	6	9	12	15	?	18

a. Describe the rule that relates the number of weeks Shelly has been training to the number of miles she rides.

multiply by 3 (x 3) is the rule. Multiply Training weeks by 3.

b. If she continues training by the same rule, how many miles will Shelly ride during her 6th week of training?

Shelly will ride 18 miles.

2. Shelly also trains to increase the number of minutes she can run without stopping. She plans to graph the data she has collected.

Training (weeks)	1	2	3	4	5	6
Non-Stop Running (minutes)	$3\frac{1}{2}$	7	$10\frac{1}{2}$	14	$17\frac{1}{2}$	21

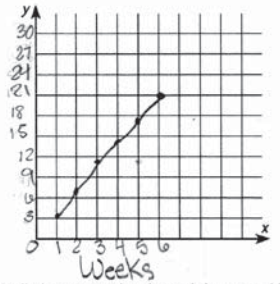
a. List the ordered pairs Shelly should graph.

(1, 3½), (2, 7), (3, 10½), (4, 14), (5, 17½), (6, 21)

b. Would a scale of 0–25 be appropriate for the graph's *x*-axis? Explain.

No, because my x-axis points are whole numbers from 1-6. A scale of 0-25 would squeeze the data points very close together and make it hard to read.

c. Graph Shelly's data on the coordinate grid below.



3. Shelly has started swim training, too. Her times in minutes for her first 10 half-mile swims are: $20\frac{1}{2}$, 21, $20\frac{3}{4}$, $21\frac{1}{4}$, 21, $20\frac{3}{4}$, 21, $20\frac{3}{4}$, 21, 21.

a. Make a line plot to represent this data.

b. Shelly's training partner Ray says her average (mean) swim time is 21 minutes. Is Ray correct? If yes, how do you know? If no, by how many minutes is Ray incorrect?

No she is wrong by 1/10 of a minute.
Average (mean): 20½ + 3(20¾) + 5(21) + 21¼ =
20½ + 62¼ + 105 + 21¼ = 209
209 ÷ 10 = 20 9/10
21 − Average (mean): 21 − 20 9/10 =
20 10/10 − 20 9/10 = 1/10 minute

20 ½
20 ¾
20 ¾
20 ¾
21
21 21¼
21
21 209
21
21
21

20 R9
10 | 209
20
9

20.9

Name _____ **Chapter 9**

Triathlon Training

Shelly is training for a triathlon. In the triathlon she will ride her bike, run, and swim. Answer questions 1–3. Show your work, and write all fractions in simplest form.

1. Each week Shelly rides her bicycle 3 miles farther than the week before.

Training (weeks)	1	2	3	4	5	6 ×3=18
Riding (miles)	3	6	9	12	15	?

a. Describe the rule that relates the number of weeks Shelly has been training to the number of miles she rides.

The training weeks are multiplyed by 3.

b. If she continues training by the same rule, how many miles will Shelly ride during her 6th week of training?

Shelly will ride 18 miles.

2. Shelly also trains to increase the number of minutes she can run without stopping. She plans to graph the data she has collected.

Training (weeks)	1	2	3	4	5	6
Non-Stop Running (minutes)	$3\frac{1}{2}$	7	$10\frac{1}{2}$	14	$17\frac{1}{2}$	21

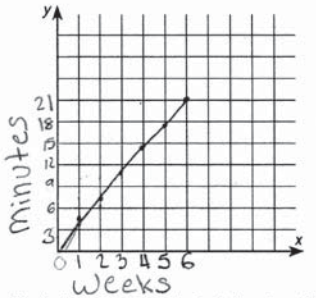
a. List the ordered pairs Shelly should graph.

$(1, 3\frac{1}{2}), (2, 7), (3, 10\frac{1}{2}), (4, 14), (5, 17\frac{1}{2}), (6, 21)$ mph.

b. Would a scale of 0–25 be appropriate for the graph's *x*-axis? Explain.

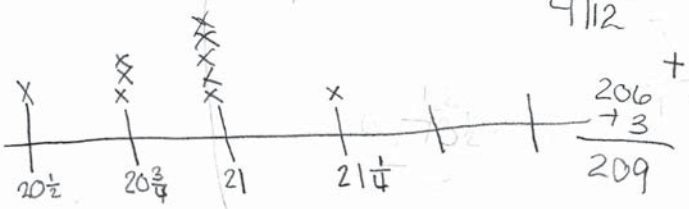
No because my x-axis information is 1-6. 1-25 would make it to hard to read. The points would be close.

c. Graph Shelly's data on the coordinate grid below.



3. Shelly has started swim training, too. Her times in minutes for her first 10 half-mile swims are: $20\frac{1}{2}$, 21, $20\frac{3}{4}$, $21\frac{1}{4}$, 21, $20\frac{3}{4}$, 21, $20\frac{3}{4}$, 21, 21.

a. Make a line plot to represent this data.



b. Shelly's training partner Ray says her average (mean) swim time is 21 minutes. Is Ray correct? If yes, how do you know? If no, by how many minutes is Ray incorrect?

I think Ray is correct because he could have rounded.

Sample Level 2 Response

Name _____ **Chapter 9**

Triathlon Training

Shelly is training for a triathlon. In the triathlon she will ride her bike, run, and swim. Answer questions 1–3. Show your work, and write all fractions in simplest form.

1. Each week Shelly rides her bicycle 3 miles farther than the week before.

Training (weeks)	1	2	3	4	5	6
Riding (miles)	3	6	9	12	15	?

a. Describe the rule that relates the number of weeks Shelly has been training to the number of miles she rides.

The Traning weeks mo1+uply by 3

b. If she continues training by the same rule, how many miles will Shelly ride during her 6th week of training?

She will ride 18 miles

2. Shelly also trains to increase the number of minutes she can run without stopping. She plans to graph the data she has collected.

Training (weeks)	1	2	3	4	5	6
Non-Stop Running (minutes)	$3\frac{1}{2}$	7	$10\frac{1}{2}$	14	$17\frac{1}{2}$	21

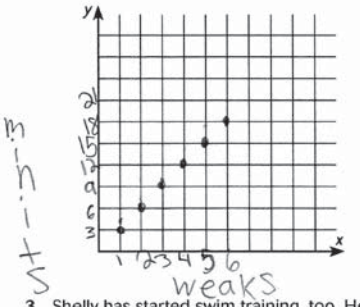
a. List the ordered pairs Shelly should graph.

(1, $3\frac{1}{2}$) (2, 7) (3, $10\frac{1}{2}$) (4, 14) (5, $17\frac{1}{2}$) (6, 21)

b. Would a scale of 0–25 be appropriate for the graph's *x*-axis? Explain.

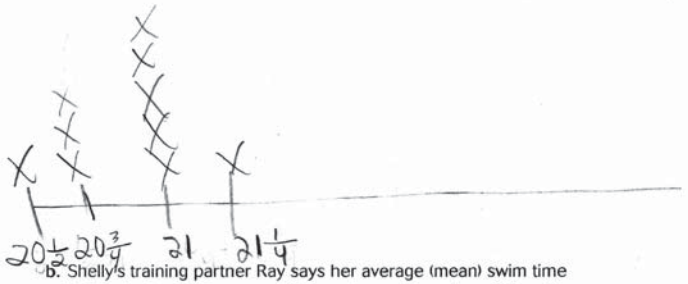
No it is not a lot.

c. Graph Shelly's data on the coordinate grid below.



3. Shelly has started swim training, too. Her times in minutes for her first 10 half-mile swims are: $20\frac{1}{2}$, 21, $20\frac{3}{4}$, $21\frac{1}{4}$, 21, $20\frac{3}{4}$, 21, $20\frac{3}{4}$, 21, 21

a. Make a line plot to represent this data.



b. Shelly's training partner Ray says her average (mean) swim time is 21 minutes. Is Ray correct? If yes, how do you know? If no, by how many minutes is Ray incorrect?

$20\frac{1}{2} + \frac{1}{4} = 20.9\frac{0}{4} = 21$

Name _____ **Chapter 9**

Triathlon Training

Shelly is training for a triathlon. In the triathlon she will ride her bike, run, and swim. Answer questions 1–3. Show your work, and write all fractions in simplest form.

1. Each week Shelly rides her bicycle 3 miles farther than the week before.

Training (weeks)	1	2	3	4	5	6
Riding (miles)	3	6	9	12	15	?

a. Describe the rule that relates the number of weeks Shelly has been training to the number of miles she rides.

add 3.

b. If she continues training by the same rule, how many miles will Shelly ride during her 6th week of training?

18.

2. Shelly also trains to increase the number of minutes she can run without stopping. She plans to graph the data she has collected.

Training (weeks)	1	2	3	4	5	6
Non-Stop Running (minutes)	$3\frac{1}{2}$	7	$10\frac{1}{2}$	14	$17\frac{1}{2}$	21

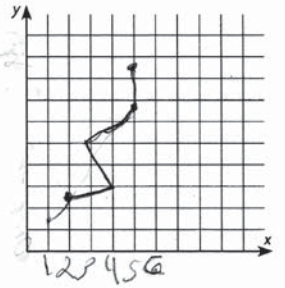
a. List the ordered pairs Shelly should graph.

3½

b. Would a scale of 0–25 be appropriate for the graph's *x*-axis? Explain.

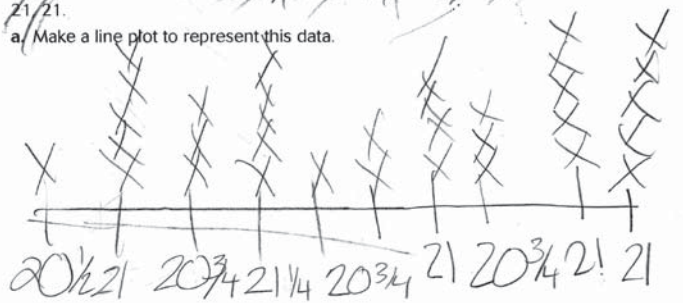
NO

c. Graph Shelly's data on the coordinate grid below.



3. Shelly has started swim training, too. Her times in minutes for her first 10 half-mile swims are: $20\frac{1}{2}$, 21, $20\frac{3}{4}$, $21\frac{1}{4}$, 21, $20\frac{3}{4}$, 21, $20\frac{3}{4}$, 21, 21.

a. Make a line plot to represent this data.



b. Shelly's training partner Ray says her average (mean) swim time is 21 minutes. Is Ray correct? If yes, how do you know? If no, by how many minutes is Ray incorrect?

He is five minutes off

Sample Level 0 Response

Name _____

Chapter 10 Test
Page 1

1. The first bus stop on a bus route is 4 miles from school. How many yards is the first bus stop from school?

7,040 yards

2. John made 2 quarts of juice for a school party. He said that he made $\frac{2}{4}$ cup of juice. Explain John's mistake.

Possible explanation: John divided the number of quarts by 4 to convert to cups. He should have multiplied the number of quarts by 4 to find the number of cups in 2 quarts. $2 \times 4 = 8$ cups

3. The debate team is showing a video of their recent debate. The first showing begins at 3:15 P.M. The second showing is scheduled at 4:50 P.M. with a $\frac{1}{2}$-hour break between the showings.

Part A

How long is the video in hours and minutes?

1 hour(s) and 5 minutes

Part B

Explain how you can use a number line to find the answer.

Possible explanation: I can work backward from the start time of the second showing at 4:50. I count back $\frac{1}{2}$ hour, which is 30 minutes, for the break between showings to 4:20. Then I can find the elapsed time between 3:15 and 4:20.

Part C

The second showing started 20 minutes late. Will the second showing be over by 6:30 P.M.? Explain why your answer is reasonable.

Yes. Possible explanation: the second showing started at 5:10 P.M. The video lasts 1 hour 5 minutes, so it ends at 6:15 P.M., which is earlier than 6:30 P.M.

GO ON

Name _____

Chapter 10 Test
Page 2

4. Ed bought 3 liters of water, 2,750 milliliters of sports drink, and 2.25 liters of juice. For numbers 4a–4e, select True or False for each statement.

4a.	Ed bought 250 milliliters more water than sports drink.	● True	○ False
4b.	Ed bought 1.25 liters more water than juice.	○ True	● False
4c.	Ed bought 50 milliliters more sports drink than juice.	○ True	● False
4d.	Ed bought 0.5 liter more of sports drink than juice.	● True	○ False
4e.	Ed bought 75 milliliters more water than juice.	○ True	● False

5. A female elephant can weigh up to 8,000 pounds. How many tons is 8,000 pounds?

4 tons

6. Ushma and her friends went to a movie that started at 7:35 P.M. The movie ended at 9:20 P.M.

Part A

How long was the movie?

1 hour(s) and 45 minutes

Part B

Ushma got home 50 minutes after the movie ended. What time did Ushma get home? Explain how you found your answer.

10:10 P.M.; Possible explanation: I need to find 50 minutes after 9:20 P.M. 9:20 to 10:00 is 40 minutes, so 10 minutes more is 10:10.

GO ON

Name _____

Chapter 10 Test
Page 3

7. Select the objects that hold the same amount of liquid as a 128-fluid-ounce jug. Mark all that apply.

- (A) two 1-quart bottles
- ● four 1-quart bottles
- (C) two 8-ounce fluid glasses and two 1-quart bottles
- ● one 1-quart bottle and twelve 8-ounce fluid glasses
- ● two 1-quart bottles and four 1-pint bottles

8. Roland's suitcase has a mass of 2,500 dekagrams. What is the mass of Roland's suitcase in kilograms?

25 kilograms

9. Monica walks every day for exercise at a rate of 1 kilometer every 20 minutes.

Part A

At this rate, how many meters can Monica walk in 1 hour? Explain how you found your answer.

3,000 meters; Possible explanation: Since there are 60 minutes in 1 hour, I would divide 60 ÷ 20 = 3. Then I would multiply 1 × 3 = 3 to find out how many kilometers Monica walks in 1 hour. Since there are 1,000 meters in 1 kilometer, I would multiply 3 × 1,000 = 3,000 to convert to meters.

Part B

Suppose Monica walks 1 kilometer every 15 minutes. How many meters further can she walk in 1 hour at this new rate? Explain how you found your answer.

1,000 meters; Possible explanation: Since there are 60 minutes in 1 hour, I would divide 60 ÷ 15 = 4. Then I would multiply 1 × 4 = 4 to find out how many kilometers Monica walks in 1 hour. Since there are 1,000 meters in 1 kilometer, I would multiply 4 × 1,000 = 4,000 to convert to meters. So, Monica walks 4,000 meters in 1 hour at her new rate. Then I subtract 4,000 – 3,000 = 1,000.

GO ON

Name _____

Chapter 10 Test
Page 4

10. Mrs. Davis has 64 bottles of water. If each bottle holds 1 pint of water, how many gallons of water does Mrs. Davis have?

8 gallons

11. The distance between second base and third base on a regulation baseball field is 30 yards. Choose the word and number to complete the sentence correctly.

To convert 30 yards to feet, [add / subtract / multiply / divide] 30 by [3 / 12 / 1,760 / 5,280].

12. Keiko bought 3 pounds of fruit salad. How many ounces of fruit salad did Keiko buy?

48 ounces

13. Anoki bought 360 millimeters of fabric. How many centimeters of fabric does Anoki have? Use the numbers and symbols on the tiles to write an equation to show the conversion.

360	36.0	3.60	0.360
×	÷	=	
10	100	1,000	

360 ÷ 10 = 36.0

Anoki has 36.0 centimeters of fabric.

14. Mickey needs to cut pieces of ribbon that are each 1-meter long to tie onto balloons. If he has 8 pieces of ribbon that are each 1 dekameter long, how many 1-meter pieces of ribbon can he cut?

80 pieces

GO ON

Name _____ Chapter 10 Test Page 5

15. A fish tank holds 15 gallons of water. Jordan is using a 1-pint container to fill the fish tank. Complete the table to help you find the number of pints of water Jordan will need to fill the fish tank.

gallon	1	5	10	15
pint	8	40	80	120

Jordan will need 120 pints to fill the fish tank.

16. Bradley bought 36 yards of fabric to make costumes for the school play. How many inches of fabric did Bradley buy?

1,296 inches

17. Joann is having a party. She wants to make punch. The recipe for punch uses 4 pints of orange juice, 5 cups of apple juice, $\frac{1}{2}$ gallon of lemonade, and 2 quarts of pineapple juice.

Part A

Joann says her recipe will make 30 cups of punch. Is Joann correct? Explain your answer.

No. The recipe will make 29 cups of punch. Possible explanation: I converted all the measurements to cups: 4 pints of orange juice = 8 cups; $\frac{1}{2}$ gallon of lemonade = 8 cups, 2 quarts of pineapple juice = 8 cups. Then I found the total number of cups including the 5 cups of apple juice: 8 + 5 + 8 + 8 = 29 cups.

Part B

Joann decides to pour her punch into 1-quart containers to fit into her refrigerator until the party starts. She has eight 1-quart containers. Will all of her punch fit into the containers? Explain.

Yes. Possible explanation: one 1-quart container will hold 4 cups of punch. Eight 1-quart containers will hold 32 cups of punch. Joann has 29 cups of punch. Since 32 > 29, all of the punch will fit into the eight 1-quart containers.

GO ON

Name _____ Chapter 10 Test Page 6

18. Keisha is walking around a track that is 400 yards long. She has walked around the track 5 times so far. How many more yards does she need to walk around the track to complete 2 miles?

1,520 yards

19. Betsy spent 26 days traveling in Europe. How many hours did she spend traveling in Europe?

624 hours

20. The average weight of a gray whale is 16 tons. About how many pounds does a gray whale weigh?

32,000 pounds

21. An art teacher has a roll of mural paper that is 5 meters long. She needs to cut it into 1-decimeter long pieces for a collage project. How many 1-decimeter pieces can she cut from the roll of mural paper? Show your work. Explain how you found your answer.

50 pieces
Possible explanation: 5 m × 10 = 50 decimeters

22. For numbers 22a–22d, select True or False for each statement.

16a.	1,000 lb > 1 T	○ True	● False
16b.	40 oz < 3 lb	● True	○ False
16c.	36 oz = 2 lb	○ True	● False
16d.	68 oz < 4 lb 6 oz	● True	○ False

STOP

Name _____ Chapter 10

Backpacking Trip

1. Dominic and Terrell are planning a weekend backpacking trip. Dominic wants to hike Fox Trail, which is 6 miles long. Terrell wants to take Western Trail, which is 7,920 yards. Which trail is longer? How much longer is it in miles and yards? Show your work.

1760 yards = 1 mile

Fox Trail = 6 miles Western Trail = 7,920 yards

6 miles (~~7,920~~)? yards

Fox Trail = 10,560

Western Trail = 7,920

Fox Trail is longer than the Western trail. It is 2,640 yards longer than Western Trail. It is 1 mile and 880 yards longer.

10,560 − 7,920 = 2,640

1760 | 7920 yds (1760 / 1 mi) 2 miles

−7,040

880

2. Dominic's water jug holds 1.25 quarts. Terrell says he can find the capacity of the jug in fluid ounces by dividing 1.25 by 32.

a. Is Terrell correct? Explain how you know.

1.25 qts (~~1/32 oz~~)? oz

No Terrell is wrong, you would need to multiply by 32 to change from quarts to fluid ounces

32 × 1760 / 4 = 7040

b. How many fluid ounces does the jug hold? Show your work.

The jug holds 40 fluid oz.

1.25 × 2 pt/qt × 2 c/pt × 8 fl oz/c = 1.25 qts (1 qt / 32 oz) 40 oz

1.25 × 32 = 1250 + 3750 = 4,000

1.25 × 32 / 40

3. Terrell needs the total weight of his backpack, water jug, and sleeping bag to be less than 11 kilograms. His backpack weighs 9,580 grams, his water jug is 1.25 kilograms, and his sleeping bag is 25,000 milligrams. Dominic says that the total weight is 35.83 kg. He shows Terrell his math.

grams − Kilo grams

✓ backpack:	9580 (9.58) ÷ 1000 =	9.58 kg	total	9.58
✓ water jug:	1.25 kg			1.25
✗ sleeping bag:	~~0.25000~~ ÷ 1000 =	25 kg		+25.00
				35.83

Kilo liters meters grams Centi

a. What mistake did Dominic make?

25000 ÷ 1000000 mg

Dominic misplaced the decimal and it should be .025000 on the SB. The SB weighs only 0.025 kg

b. Is the total weight of the backpack, water jug, and sleeping bag less than or greater than 11 kilograms? By how many grams?

total weight in kg.

The total is 145 grams less than 11 kg.

11.000 − 10.855 = 0.145

9.58 + 1.250 + 0.025 = 10.855

0.145 kg × 1000 g/kg = 145 grams

4. Dominic and Terrell plan to start their weekend backpacking trip on Friday at 2:10 P.M, and return home on Sunday at 11:30 A.M. How many days, hours, and minutes are they planning for the trip to last? Show your work.

The boys would be at the camp for 1 day 21 hours and 20 minutes.

45 hrs 20 min

24 − 21 = 3

50 − 30 = 20

60 min = 1 hr

Fri. 2:10 pm

2:10 − 3 = 50 min

3-4-1hr 10-11-1hr
4-5-1hr 11-12-1hr
5-6-1hr
6-7-1hr
7-8-1hr
8-9-1hr
8-10-1hr

Sat 24 hrs 1 day

Sun

12-1-1hr
1-2-1hr
2-3-1hr
3-4-1hr
4-5-1hr
5-6-1hr
6-7-1hr
7-8-1hr
8-9-1hr
9-10-1hr
10-11-1hr
11-11:30

Name _____ Chapter 10

Backpacking Trip

1. Dominic and Terrell are planning a weekend backpacking trip. Dominic wants to hike Fox Trail, which is 6 miles long. Terrell wants to take Western Trail, which is 7,920 yards. Which trail is longer? How much longer is it in miles and yards? Show your work.

Fox Trail = 6 miles Western Trail = 7,920 yards

6 miles (1,760 yards / 1 mile) 10,560 yards

7,920 yards (1 mile / 1,760 yards) ? miles

Fox Trail = 10,560 yards

Fox Trail is longer than Western Trail. It is 2,640 yards longer than Western Trail. It is 1 mile and 880 yards longer.

2. Dominic's water jug holds 1.25 quarts. Terrell says he can find the capacity of the jug in fluid ounces by dividing 1.25 by 32.

a. Is Terrell correct? Explain how you know.

1.25 qts (1 / 32) oz

NO Terrell is incorrect you would need to multiply by 32 to change from quarts to fluid ounces.

b. How many fluid ounces does the jug hold? Show your work.

1.25 qts (1 qt / 32 oz) ? oz The jug holds 40.00 fluid ounces

3. Terrell needs the total weight of his backpack, water jug, and sleeping bag to be less than 11 kilograms. His backpack weighs 9,580 grams, his water jug is 1.25 kilograms, and his sleeping bag is 25,000 milligrams. Dominic says that the total weight is 35.83 kg. He shows Terrell his math.

backpack: 9580 ÷ 1000 = 9.58 kg

water jug: 1.25 kg

sleeping bag: 25000 ÷ 1000 = 25 kg

total 9.58 + 1.25 + 25.00 = 35.83

Kilo { meters, liters, grams } centi- milli-

a. What mistake did Dominic make?

He misplaced the decimal on the sleeping bag and the answer is .025 kg.

b. Is the total weight of the backpack, water jug, and sleeping bag less than or greater than 11 kilograms? By how many grams?

The total weight is 245 grams less than 11 kg.

4. Dominic and Terrell plan to start their weekend backpacking trip on Friday at 2:10 P.M. and return home on Sunday at 11:30 A.M. How many days, hours, and minutes are they planning for the trip to last? Show your work.

Fri 2:10 to Sat 2:10 = 1 day

Sat 2:10 to Sun 2:10 = 12 hours

Sun 2:10 to Sun 11:10 = 9 hours

Sun 11:10 to Sun 11:30 = 20 minutes

days	hours	minutes
1	21	20

Name ______________________ **Chapter 10**

Backpacking Trip

1. Dominic and Terrell are planning a weekend backpacking trip. Dominic wants to hike Fox Trail, which is 6 miles long. Terrell wants to take Western Trail, which is 7,920 yards. Which trail is longer? How much longer is it in miles and yards? Show your work.

Fox trail = 6 miles Western trail = 7,920 yd
6 miles (1/1760) ? yards 1760
× 6
Fox trail 10,560
Fox trail is longer than Western trail.

1 mile = 5280
3 ft = 1 yd
1 mile = 1760

2. Dominic's water jug holds 1.25 quarts. Terrell says he can find the capacity of the jug in fluid ounces by dividing 1.25 by 32.
   a. Is Terrell correct? Explain how you know.

1.25 qts (1/32 oz) No, terrell is incorrect, oz are smaller than qts. There will be lots more.

   b. How many fluid ounces does the jug hold? Show your work.

1.25 qts 40oz

1.25 × 32 = 250 + 3750 = 40.00

3. Terrell needs the total weight of his backpack, water jug, and sleeping bag to be less than 11 kilograms. His backpack weighs 9,580 grams, his water jug is 1.25 kilograms, and his sleeping bag is 25,000 milligrams. Dominic says that the total weight is 35.83 kg. He shows Terrell his math.

backpack:	9580 ÷ 1000 = 9.58 kg	total	9.58
water jug:	1.25 kg		1.25
sleeping bag:	25000 ÷ 1000 = 25 kg		+25.00
			35.83

kilo { liters meters grams } cent: mili

9.58
1.25

   a. What mistake did Dominic make?

He misplace the decimal and the answer is .25000

   b. Is the total weight of the backpack, water jug, and sleeping bag less than or greater than 11 kilograms? By how many grams?

No it's bigger by 11 kg

4. Dominic and Terrell plan to start their weekend backpacking trip on Friday at 2:10 P.M. and return home on Sunday at 11:30 A.M. How many days, hours, and minutes are they planning for the trip to last? Show your work.

Fri Sat Sun
2:10 pm 24hrs 11:30 am
2:10 - 3:00 50

3-4 1 11-12
4-5 2 12-1
5-6 3
6-7 4
7-8 5
8-9
9-10 6

1 days 19 hrs 20 minuts

Name _____ Chapter 10

Backpacking Trip

1. Dominic and Terrell are planning a weekend backpacking trip. Dominic wants to hike Fox Trail, which is 6 miles long. Terrell wants to take Western Trail, which is 7,920 yards. Which trail is longer? How much longer is it in miles and yards? Show your work.

fox trail = 6 mile, weston trail = 7,920 yards

mile

foxtrail longer than western trail. - is

2. Dominic's water jug holds 1.25 quarts. Terrell says he can find the capacity of the jug in fluid ounces by dividing 1.25 by 32.
   a. Is Terrell correct? Explain how you know.

yes

   b. How many fluid ounces does the jug hold? Show your work.

1.25

3. Terrell needs the total weight of his backpack, water jug, and sleeping bag to be less than 11 kilograms. His backpack weighs 9,580 grams, his water jug is 1.25 kilograms, and his sleeping bag is 25,000 milligrams. Dominic says that the total weight is 35.83 kg. He shows Terrell his math.

backpack:	9580 ÷ 1000 =	9.58 kg	total	9.58
water jug:	1.25 kg			1.25
sleeping bag:	25000 ÷ 1000 =	25 kg		+25.00
				35.83

   a. What mistake did Dominic make?

He added rong.

   b. Is the total weight of the backpack, water jug, and sleeping bag less than or greater than 11 kilograms? By how many grams?

no

4. Dominic and Terrell plan to start their weekend backpacking trip on Friday at 2:10 P.M. and return home on Sunday at 11:30 A.M. How many days, hours, and minutes are they planning for the trip to last? Show your work.

3 days counting Fri idea

fri
2:10 PM - 3
3 - 4
4 - 5
5 - 6

sat
6 - 7
7 - 8
8 - 9
9 - 10
10 - 11
11 - 12

24 1 day

sun
12 - 1
1 - 2
2 - 3
3 - 4
4 - 5
6 - 7
7 - 8
8 - 9
9 - 10
10 - 11

Sample Level 0 Response

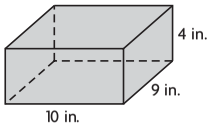
Name _____

Chapter 11 Test
Page 1

1. Kristin drew a triangle with 2 congruent sides and 1 obtuse angle. Which term accurately describes the triangle? Mark all that apply.

- ● isosceles
- Ⓒ acute
- Ⓑ scalene
- ● obtuse

2. Erin stores her photos in a box like the one shown.



Use the numbers and symbols on the tiles to write a formula that represents the volume of the box. Symbols may be used more than once or not at all.

V	4	9	10	=	+	×	−	÷

$V = 10 \times 9 \times 4$

What is the volume of the box?

360 cubic inches

3. Mr. Diaz is building a fence around his yard. For numbers 3a–3b, choose the values and term that correctly describe the shape of Mr. Diaz's fence.

3a. The figure has

3
4
(5)

sides and

0
(5)
6

vertices.

3b. None of the sides are congruent, so the figure is

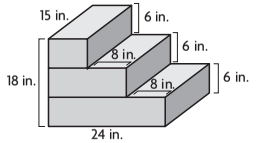
a regular polygon
not a polygon.
(not a regular polygon)

GO ON

Name _____

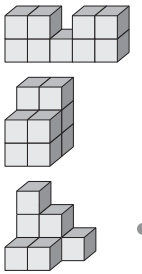
Chapter 11 Test
Page 2

4. What is the volume of the composite figure?



4,320 cubic inches

5. Match the figure with the number of unit cubes that would be needed to build each figure. Not every number of unit cubes will be used.



- 7 unit cubes
- 8 unit cubes
- 9 unit cubes
- 10 unit cubes
- 12 unit cubes
- 15 unit cubes

6. Edwin is working on his oral report about polyhedrons for his math class. He will show figures and organize them in different groups during his report.

Part A

Edwin wants to show three-dimensional figures whose lateral faces are triangles. He says he can show prisms and pyramids. Do you agree? Explain your answer.

No; Possible explanation: Edwin cannot show prisms because the lateral faces of a prism are rectangles, not triangles. He can show pyramids for his report since the lateral faces of pyramids are triangles.

Part B

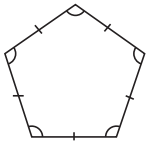
Edwin says that he can show a figure with a square base and congruent triangular faces. Is Edwin correct? Explain your reasoning.

Yes; Possible explanation: A square pyramid is a polyhedron with a square base and 4 congruent lateral faces that are triangles.

GO ON

Name _____ **Chapter 11 Test Page 3**

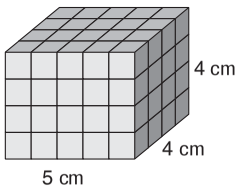
7. Julia drew the shape shown. For numbers 7a–7b, choose the values and term that correctly describe the shape Julia drew.



7a. The figure has [4 / **5** / 6] sides and [**5** / 6 / 10] angles.

7b. The figure is a [regular heptagon / regular hexagon / **regular pentagon**].

8. Wendy used 1-centimeter cubes to build the rectangular prism shown. Find the volume of the rectangular prism Wendy built.

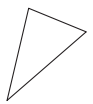


80 cubic centimeters

9. Natalie drew an acute, isosceles triangle. For 9a–9c, choose Yes or No to indicate whether the figure shown could be the triangle that Natalie drew.

9a.  ○ Yes ● No

9b.  ● Yes ○ No

9c.  ○ Yes ● No

GO ON

Name _____ **Chapter 11 Test Page 4**

10. A shipping container holds 40 tissue boxes. The dimensions of a tissue box are 4 inches by 6 inches by 3 inches. For numbers 10a–10c, select True or False for each statement.

10a. Each tissue box has a volume of 72 cubic inches. ● True ○ False

10b. Each container has a volume of about 1,440 cubic inches. ○ True ● False

10c. If a container could hold 48 tissue boxes, the volume of the container would be about 624 cubic inches. ○ True ● False

11. Ainsley is making a diagram that shows the relationship between different kinds of quadrilaterals. In the diagram, each quadrilateral on a lower level can also be described by the quadrilateral(s) above it on higher levels.

Part A

Complete the diagram by writing the name of one figure from the tiles in each box. Not every figure will be used.

quadrilateral
↓
trapezoid
↓
parallelogram
↓
rectangle
↓
square

rectangle
trapezoid
pentagon
parallelogram

Part B

Ainsley claims that a rectangle is *sometimes* a parallelogram, but a parallelogram is *always* a rectangle. Is she correct? Explain your answer.

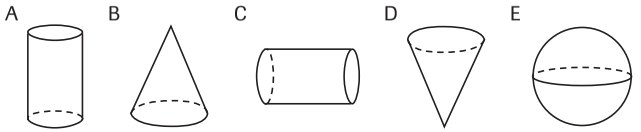
No; Possible explanation: A parallelogram has opposite sides that are congruent and parallel. A rectangle with these features and 4 right angles is always a parallelogram. However, a parallelogram is not always a rectangle because it may not have 4 right angles.

GO ON

Name _____

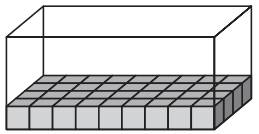
Chapter 11 Test
Page 5

12. Write the letter in the box that correctly describes the three-dimensional figure.



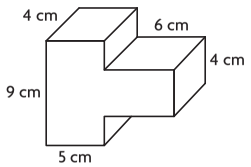
Cone	Sphere	Cylinder
B, D	E	A, C

13. Jessica packed 1-inch cubes into a box with a volume of 144 cubic inches. How many layers of 1-inch cubes did Jessica pack?



4 layers

14. A composite figure is shown. What is the volume of the composite figure?



Volume = 276 cubic centimeters

GO ON

Name _____

Chapter 11 Test
Page 6

15. For numbers 15a–15c, write the name of one figure from the tiles to complete a true statement. Use each figure only once.

15a. A pentagon is never a parallelogram.

15b. A parallelogram is sometimes a rhombus.

15c. A square is always a rectangle.

pentagon | parallelogram | square

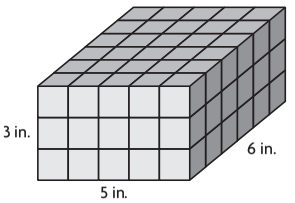
16. A shipping container has a volume of 2,880 cubic inches. Which could be the dimensions of the container? Mark all that apply.

- ● 10 in. by 12 in. by 24 in.
- Ⓒ 12 in. by 15 in. by 18 in.
- ● 12 in. by 12 in. by 20 in.
- Ⓓ 10 in. by 16 in. by 20 in.

17. Tom keeps sticky notes in a box that is the shape of a cube. Each side of the box is 4 inches. What is the volume of the box?

64 cubic inches

18. Donald used 1-inch cubes to make the rectangular prism shown. For numbers 18a–18d, write the value that makes each statement true. Each value can be used more than once or not at all.



1	3	5	6	14	30	90	120

18a. Each cube has a volume of 1 cubic inch(es).

18b. Each layer of the prism is made up of 30 cubes.

18c. There are 3 layers of cubes.

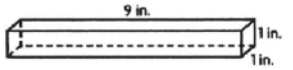
18d. The volume of the prism is 90 cubic inches.

STOP

Name _____ **Chapter 11**

Box Factory

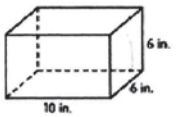
1. The *Fold-N-Go* box factory makes boxes that hold 1 candle. The boxes measure 1 × 1 × 9 inches.



The factory owner makes a stack of 40 candle boxes. What is the volume of the stack? Show your work.

$360 in^3$

2. The factory owner asks Ella to design a new box. The box is a rectangular prism. Ella's design is shown below.



The factory owner discovers that 36 candle boxes will fit in Ella's new box. There is some space left over, but not enough for another candle box. He says that, because 36 < 40, the volume of Ella's box must be less than the volume of the stack of 40 candle boxes.

a. Is the owner correct? What is the volume of Ella's box? Show your work.

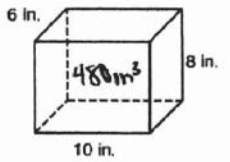
The owner is incorrect, the volume is $360 in^3$

b. Suggest a way that the owner could cut up the candle boxes so he could use them to measure the volume of Ella's box.

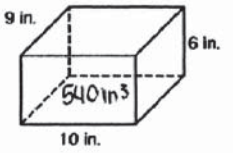
The owner can cut up the candle box into 9 cubes measuring 1 inch on all sides. So that way the # of boxes that're in Ella's box are equal to the volume of her box

These are the three different boxes that can be used. Which box should the owner use? Explain your choice.

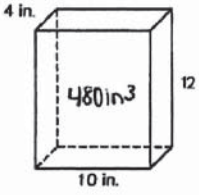
a.



b.



c.

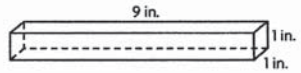


the owner should use box b, because it fits 50 candies.

Name _____ **Chapter 11**

Box Factory

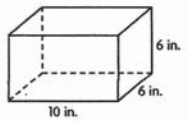
1. The *Fold-N-Go* box factory makes boxes that hold 1 candle. The boxes measure $1 \times 1 \times 9$ inches.



The factory owner makes a stack of 40 candle boxes. What is the volume of the stack? Show your work.

$1 \times 1 \times 9 \times 40 = 320 \text{ in}^3$

2. The factory owner asks Ella to design a new box. The box is a rectangular prism. Ella's design is shown below.



The factory owner discovers that 36 candle boxes will fit in Ella's new box. There is some space left over, but not enough for another candle box. He says that, because $36 < 40$, the volume of Ella's box must be less than the volume of the stack of 40 candle boxes.

a. Is the owner correct? What is the volume of Ella's box? Show your work.

$10 \times 6 \times 6 = 360 \text{ in}^3$

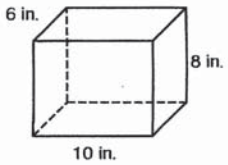
The owner is not correct

b. Suggest a way that the owner could cut up the candle boxes so he could use them to measure the volume of Ella's box.

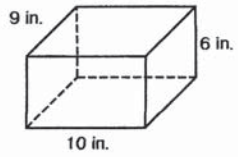
He could cut the box into 1 in. cubes to measure the volume of Ella's box

3. The factory owner needs a box that will hold 50 boxed candles. These are the three different boxes that can be used. Which box should the owner use? Explain your choice.

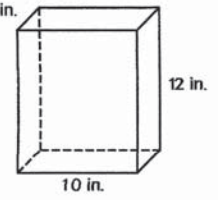
a.



b.



c.



$6 \times 8 \times 10 = 480 \text{ in}^3$

$9 \times 10 \times 6 = 540 \text{ in}^3$ most volume

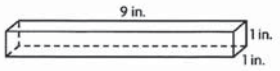
$4 \times 12 \times 10 = 480 \text{ in}^3$

He should use box b. It has the most volume

Name _____ **Chapter 11**

Box Factory

1. The *Fold-N-Go* box factory makes boxes that hold 1 candle. The boxes measure 1 × 1 × 9 inches.

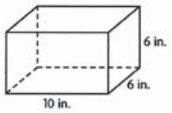


The factory owner makes a stack of 40 candle boxes. What is the volume of the stack? Show your work.

40 × 9 = 320

320 in³

2. The factory owner asks Ella to design a new box. The box is a rectangular prism. Ella's design is shown below.



The factory owner discovers that 36 candle boxes will fit in Ella's new box. There is some space left over, but not enough for another candle box. He says that, because 36 < 40, the volume of Ella's box must be less than the volume of the stack of 40 candle boxes.

36 × 10 = 360

a. Is the owner correct? What is the volume of Ella's box? Show your work.

The owner is incorrect. V = 360 in³

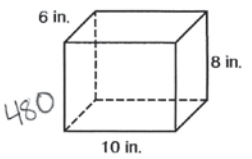
They are the same.

b. Suggest a way that the owner could cut up the candle boxes so he could use them to measure the volume of Ella's box.

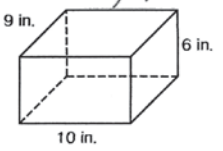
The owner could cut the candle box in half.

3. The factory owner needs a box that will hold 50 boxed candles. These are the three different boxes that can be used. Which box should the owner use? Explain your choice.

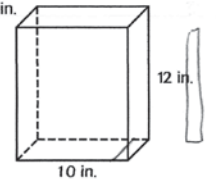
a.



b. 540



c. 480

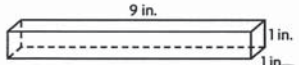


The owner should use box C. It is the tallest.

Name _____ **Chapter 11**

Box Factory

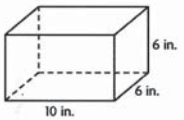
1. The *Fold-N-Go* box factory makes boxes that hold 1 candle. The boxes measure $1 \times 1 \times 9$ inches.



The factory owner makes a stack of 40 candle boxes. What is the volume of the stack? Show your work.

40

2. The factory owner asks Ella to design a new box. The box is a rectangular prism. Ella's design is shown below.



The factory owner discovers that 36 candle boxes will fit in Ella's new box. There is some space left over, but not enough for another candle box. He says that, because $36 < 40$, the volume of Ella's box must be less than the volume of the stack of 40 candle boxes.

a. Is the owner correct? What is the volume of Ella's box? Show your work.

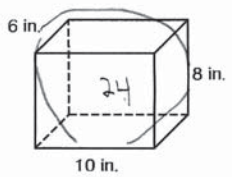
yes 36 is less then 40.

b. Suggest a way that the owner could cut up the candle boxes so he could use them to measure the volume of Ella's box.

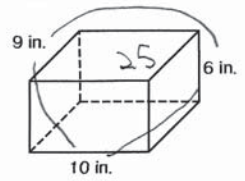
the owner could cut the box in 2.

3. The factory owner needs a box that will hold 50 boxed candles. These are the three different boxes that can be used. Which box should the owner use? Explain your choice.

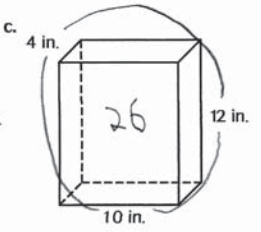
a.



b.



c.



box c is biggest!

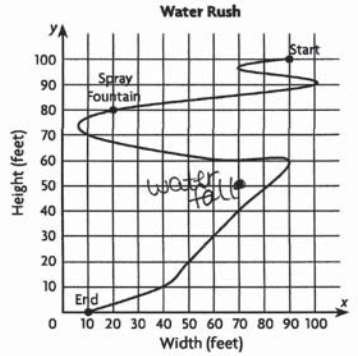
It is 26 in^3.

Sample Level 0 Response

Name _____ CRITICAL AREA Geometry and Measurement

Water Rush

1. Ms. Luca designs a new water ride for a theme park. The coordinate grid shows her plan for the path of the boats through the ride.



a. What are the coordinates of the Start and End of the ride?

Start (90, 100) End (10, 0)

b. Ms. Luca decides to place a waterfall 50 feet to the right and 30 feet below the Spray Fountain. What ordered pair describes the location of the waterfall?

(70, 50)

c. Plot and label the location of the waterfall on the coordinate grid above.

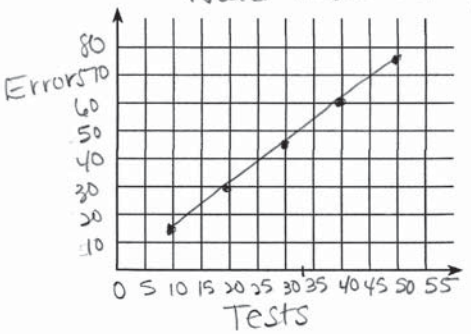
2. Once the Water Rush ride is built, Ms. Luca begins safety tests. For every 10 tests she runs, Ms. Luca finds and fixes 15 safety errors. Fill in the missing numbers in the table.

Tests Run	10	20	30	40	50
Errors Fixed	15	30	45	60	75

a. What rule could you write that relates Tests Run to Errors Fixed?

number of errors = 1.5 × number of tests

b. Graph Ms. Luca's data.



c. Estimate the number of errors Ms. Luca could expect to find and fix if she runs 33 tests. Explain how you found your answer.

I look at my graph. If I start at 33 on the test line and look strait up to the graphed line, it is about 50 or I can put 33 in my rule and multiply. ↑

33 × 1.5 = 165 + 33 = 49.5

3. Boats going through the Water Rush ride travel 0.06 miles. The most popular ride in the theme park is 174 yards long. What is the difference between the length of this ride and the length of Water Rush in feet? Show your work.

205.2 ft.

Water Rush

1 yd = 3 ft
1760 yd = 1 mile

4 1 3 7 6 0
× .0 6
1 0 5.6 0

× 3
3 1 6.8 0

5 2 2.0
− 3 1 6.8
2 0 5.2 ft.

Most popular ride 174 × 3 = 522 ft.

1 7 4
× 3
5 2 2 ft

4. Plans say that 1,800 gallons of water are recycled through the Water Rush ride each minute. Ms. Luca wants to make a statement about the number of quarts of water that are recycled each second. What should her statement be? Show your work.

4 qts = 1 gal.
1 min = 60 sec.

Ms. Luca could say that there is 120 qts recycled each second of the Water Rush ride.

3 1800
× 4
7200

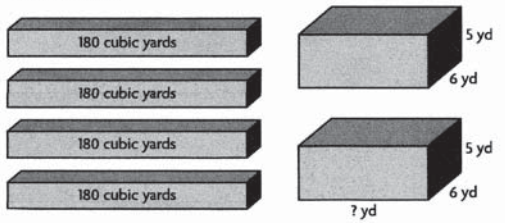
120
60 | 7200
60
120

5. Ms. Luca starts a test run for the Water Rush ride at 3:58 PM. The test lasts for 1 hour and 24 minutes. At what time does the test end? Describe how you found your answer.

5:22 PM

3:58 + 1 hour = 4:58
4:58 + 2 min = 5:00
then I added the last 22 minutes to get 5:22.

6. In her first design for Water Rush, Ms. Luca used 4 same-size rectangular bins to hold sand. Each bin had a volume of 180 cubic yards. Then Ms. Luca changed her design to use 2 new same-size rectangular bins. The total volume of the 2 new bins is equivalent to the total volume of the 4 original bins.



What is the length of each of the new bins? Show your work.

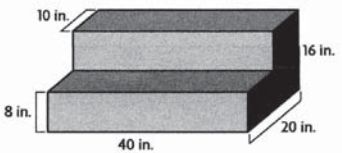
12 yds

3 180
× 4
720 yds.

360
2 | 720
6
120

5 × 6 × ? = 360
30 × ? = 360
30 × 12 = 360

7. Riders go up 2 steps to get on the Water Rush boats. The drawing shows the measurements of the steps.



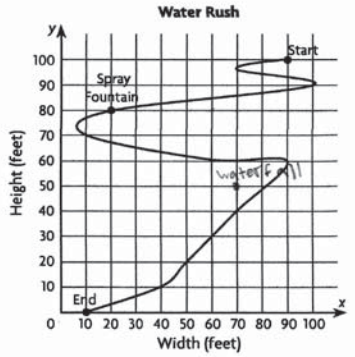
What is the total volume of the steps? Show your work.

40 × 10 × 8 + 40 × 10 × 16
3200 + 6400
9600 cubic inches

Name _____ CRITICAL AREA Geometry and Measurement

Water Rush

1. Ms. Luca designs a new water ride for a theme park. The coordinate grid shows her plan for the path of the boats through the ride.



a. What are the coordinates of the Start and End of the ride?

End: 10,0 Start: 90,100

b. Ms. Luca decides to place a waterfall 50 feet to the right and 30 feet below the Spray Fountain. What ordered pair describes the location of the waterfall?

70,50

c. Plot and label the location of the waterfall on the coordinate grid above.

2. Once the Water Rush ride is built, Ms. Luca begins safety tests. For every 10 tests she runs, Ms. Luca finds and fixes 15 safety errors. Fill in the missing numbers in the table.

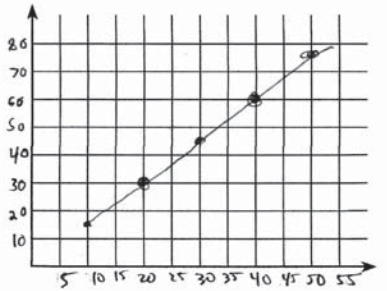
Tests Run	10	20	30	40	50
Errors Fixed	15	30	45	60	75

a. What rule could you write that relates Tests Run to Errors Fixed?

Errors is 1.5 times the tests

10 x 1.5 = 15.0
20 x 1.5 = 30.
30 x 1.5 = 45.0
40 x 1.5 = 60.
50 x 1.5 = 75.

b. Graph Ms. Luca's data.



c. Estimate the number of errors Ms. Luca could expect to find and fix if she runs 33 tests. Explain how you found your answer.

If she did 33 test there would be about 50 Errors. I used the graph.

3. Boats going through the Water Rush ride travel 0.06 miles. The most popular ride in the theme park is 174 yards long. What is the difference between the length of this ride and the length of Water Rush in feet? Show your work.

The difference is... 205.2 ft

1760 yd = 1 mile

4 1760 × .06 = 105.6

1056 × 3 = 316.8

5220 − 316.8 = 205.2

174 × 3 = 522

4. Plans say that 1,800 gallons of water are recycled through the Water Rush ride each minute. Ms. Luca wants to make a statement about the number of quarts of water that are recycled each second. What should her statement be? Show your work.

The statement should be that there are 7,200 quarts running. thought the water rush per each minute

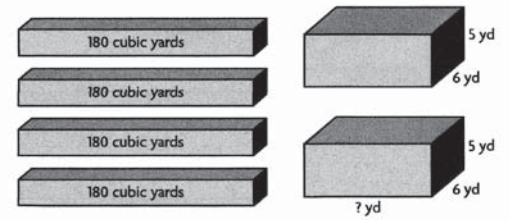
1800 × 4 = 7200

5. Ms. Luca starts a test run for the Water Rush ride at 3:58 PM. The test lasts for 1 hour and 24 minutes. At what time does the test end? Describe how you found your answer.

The test will end at 5:14 PM. I found that because 3:58 plus 1:24 is 4:82 and 4:82 = 5:22.

3:58 + 1:24 = 4:82 = 5:22

6. In her first design for Water Rush, Ms. Luca used 4 same-size rectangular bins to hold sand. Each bin had a volume of 180 cubic yards. Then Ms. Luca changed her design to use 2 new same-size rectangular bins. The total volume of the 2 new bins is equivalent to the total volume of the 4 original bins.



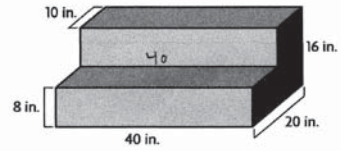
360 360 720 360 360

What is the length of each of the new bins? Show your work.

12 yds

12
30 | 360
30
60

7. Riders go up 2 steps to get on the Water Rush boats. The drawing shows the measurements of the steps.



What is the total volume of the steps? Show your work.

6,400 in³

3,200

9,600 in³

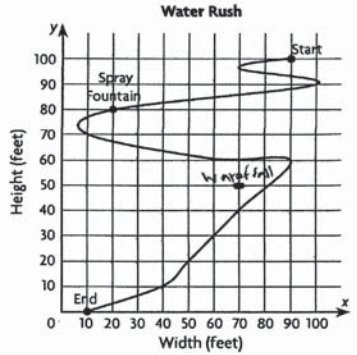
400 × 16 = 2400 + 4000 = 6400

400 × 8 = 3200

Name _____ CRITICAL AREA Geometry and Measurement

Water Rush

1. Ms. Luca designs a new water ride for a theme park. The coordinate grid shows her plan for the path of the boats through the ride.



a. What are the coordinates of the Start and End of the ride?

End: 10,0 Start: 90, 100

b. Ms. Luca decides to place a waterfall 50 feet to the right and 30 feet below the Spray Fountain. What ordered pair describes the location of the waterfall?

70, 50

c. Plot and label the location of the waterfall on the coordinate grid above.

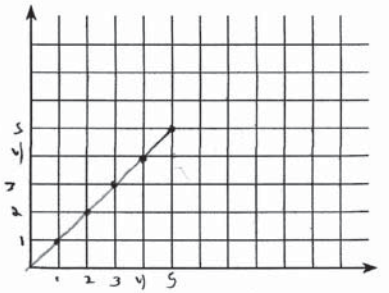
2. Once the Water Rush ride is built, Ms. Luca begins safety tests. For every 10 tests she runs, Ms. Luca finds and fixes 15 safety errors. Fill in the missing numbers in the table.

Tests Run	10	20	30	40	50
Errors Fixed	15	30	45	60	75

a. What rule could you write that relates Tests Run to Errors Fixed?

a + 10

b. Graph Ms. Luca's data.



c. Estimate the number of errors Ms. Luca could expect to find and fix if she runs 33 tests. Explain how you found your answer.

The fix will be 180 Errors then because axis is 180.

3. Boats going through the Water Rush ride travel 0.06 miles. The most popular ride in the theme park is 174 yards long. What is the difference between the length of this ride and the length of Water Rush in feet? Show your work.

24.5

24.5
6 | 174.0
-12
27
-24
30

4. Plans say that 1,800 gallons of water are recycled through the Water Rush ride each minute. Ms. Luca wants to make a statement about the number of quarts of water that are recycled each second. What should her statement be? Show your work.

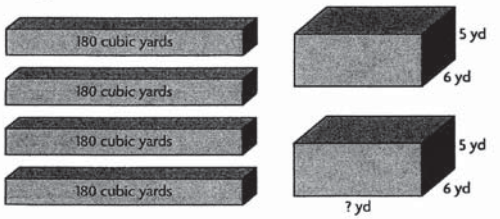
There will be 4500 quarts.

4500
4 | 18000
16
200

5. Ms. Luca starts a test run for the Water Rush ride at 3:58 PM. The test lasts for 1 hour and 24 minutes. At what time does the test end? Describe how you found your answer.

The test will end on 5:22 P.M. I found that because 3:58 + 1 hr is 4:58 + 24 min is 5:22

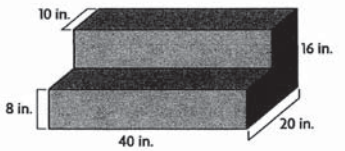
6. In her first design for Water Rush, Ms. Luca used 4 same-size rectangular bins to hold sand. Each bin had a volume of 180 cubic yards. Then Ms. Luca changed her design to use 2 new same-size rectangular bins. The total volume of the 2 new bins is equivalent to the total volume of the 4 original bins.



What is the length of each of the new bins? Show your work.

6 yd

7. Riders go up 2 steps to get on the Water Rush boats. The drawing shows the measurements of the steps.



What is the total volume of the steps? Show your work.

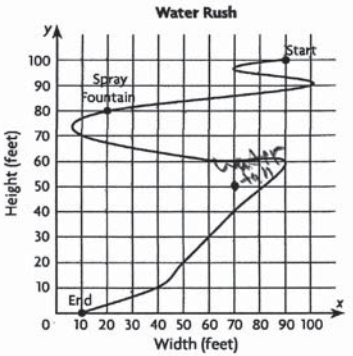
6400 in³

400
X 16
2400
+4000
6400

Name _____ CRITICAL AREA Geometry and Measurement

Water Rush

1. Ms. Luca designs a new water ride for a theme park. The coordinate grid shows her plan for the path of the boats through the ride.



a. What are the coordinates of the Start and End of the ride?

(10, 0) (100)

b. Ms. Luca decides to place a waterfall 50 feet to the right and 30 feet below the Spray Fountain. What ordered pair describes the location of the waterfall?

(70, 50)

c. Plot and label the location of the waterfall on the coordinate grid above.

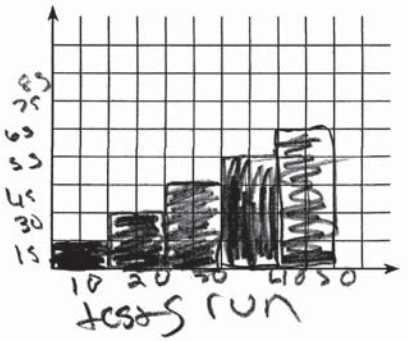
2. Once the Water Rush ride is built, Ms. Luca begins safety tests. For every 10 tests she runs, Ms. Luca finds and fixes 15 safety errors. Fill in the missing numbers in the table.

Tests Run	10	20	30	40	50
Errors Fixed	15	30	45	55	65

a. What rule could you write that relates Tests Run to Errors Fixed?

30 + 15, 40 + 15, 50 + 15

b. Graph Ms. Luca's data.



c. Estimate the number of errors Ms. Luca could expect to find and fix if she runs 33 tests. Explain how you found your answer.

45 33 + 15 errors

Sample Level 0 Response

3. Boats going through the Water Rush ride travel 0.06 miles. The most popular ride in the theme park is 174 yards long. What is the difference between the length of this ride and the length of Water Rush in feet? Show your work.

174 + 0.06

4. Plans say that 1,800 gallons of water are recycled through the Water Rush ride each minute. Ms. Luca wants to make a statement about the number of quarts of water that are recycled each second. What should her statement be? Show your work.

43,200 quarts of recycling

1,800 / 4 = 432 00

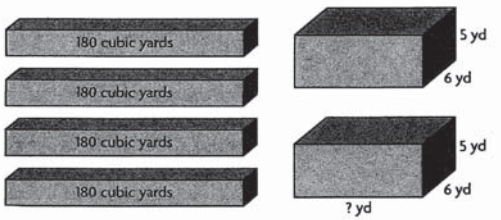
5. Ms. Luca starts a test run for the Water Rush ride at 3:58 PM. The test lasts for 1 hour and 24 minutes. At what time does the test end? Describe how you found your answer.

5:22 PM 4:58 + 1 + 24

4'58 + 24 = 482

522

6. In her first design for Water Rush, Ms. Luca used 4 same-size rectangular bins to hold sand. Each bin had a volume of 180 cubic yards. Then Ms. Luca changed her design to use 2 new same-size rectangular bins. The total volume of the 2 new bins is equivalent to the total volume of the 4 original bins.

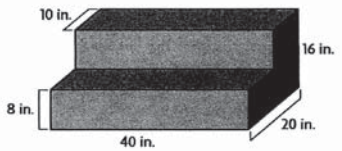


4 180 / 2 = 90 / 2 = 720

What is the length of each of the new bins? Show your work.

720 yards and 720 yards

7. Riders go up 2 steps to get on the Water Rush boats. The drawing shows the measurements of the steps.



40 × 8 = 320

800 − 320 = 1120

What is the total volume of the steps? Show your work.

320 + 800 = 1,120

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

Choose the correct answer.

1. Dan's science magazine has a mass of 256.674 grams. What is the mass of his magazine rounded to the nearest tenth?

Ⓐ 257 grams
Ⓑ 256.6 grams
● 256.7 grams
Ⓓ 256.67 grams

2. The middle school is 2.72 kilometers from Marsha's house and 1.54 kilometers from Ryan's house. How much farther does Marsha live from the middle school than Ryan?

Ⓐ 11.18 kilometers
Ⓑ 1.28 kilometers
● 1.18 kilometers
Ⓓ 0.18 kilometer

3. Rico's backpack weighed 3.6 pounds. Then he added his school books which weighed an additional 24.76 pounds. How much did Rico's backpack weigh with his school books?

Ⓐ 60.76 pounds
● 28.36 pounds
Ⓒ 27.82 pounds
Ⓓ 25.12 pounds

4. Lester and Kari are playing a number pattern game. Kari wrote the following pattern.

45.5, 49, 52.5, ____, 59.5

What is the unknown number in the pattern Kari wrote?

Ⓐ 55.5
● 56
Ⓒ 56.5
Ⓓ 58

5. Laura rode her bike for $3\frac{5}{8}$ hours on Saturday and for $4\frac{1}{4}$ hours on Sunday. Which is the best estimate of the time Laura spent riding her bike on Saturday and Sunday?

Ⓐ about 9 hours
● about 8 hours
Ⓒ about 7 hours
Ⓓ about 6 hours

GO ON

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

6. Brent has a piece of rope that is $6\frac{5}{6}$ feet long. He uses $4\frac{1}{3}$ feet of the rope to hang a tire swing. How much rope does he have left?

Ⓐ $3\frac{5}{6}$ feet
Ⓑ $3\frac{1}{2}$ feet
Ⓒ $2\frac{2}{3}$ feet
● $2\frac{1}{2}$ feet

7. John has 3 bundles of wood weighing a total of $35\frac{3}{4}$ pounds. Two of the bundles weigh $12\frac{3}{8}$ pounds and $8\frac{1}{2}$ pounds. How much does the third bundle weigh?

● $14\frac{7}{8}$ pounds
Ⓑ $18\frac{7}{8}$ pounds
Ⓒ $23\frac{3}{8}$ pounds
Ⓓ $27\frac{1}{4}$ pounds

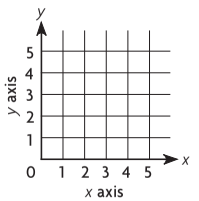
8. Maria practiced for her piano recital each day for three days. The first day she practiced for $\frac{3}{4}$ hour, the second day she practiced for $1\frac{1}{2}$ hours, and the third day she practiced for $2\frac{1}{4}$ hours. By how much did she increase the time she practiced each day?

Ⓐ $\frac{1}{4}$ hour
Ⓑ $\frac{1}{2}$ hour
● $\frac{3}{4}$ hour
Ⓓ $\frac{7}{8}$ hour

9. A fruit salad recipe calls for $\frac{3}{4}$ pound of apples and $\frac{2}{5}$ pound of dates. What is the least common denominator of the fractions?

Ⓐ 16
● 20
Ⓒ 24
Ⓓ 25

10. On a coordinate grid, Ming's house is located 2 blocks to the right and 5 blocks up from (0, 0). Joe's house is located 3 blocks to the right and 2 blocks down from Ming's house. What ordered pair describes the location of Joe's house?



Ⓐ (3, 5)
Ⓑ (3, 2)
● (5, 3)
Ⓓ (4, 3)

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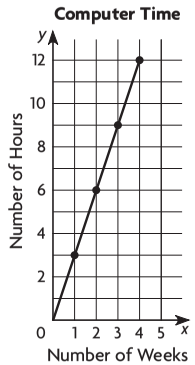
11. What is the unknown number in Sequence 2 in the chart?

Sequence Number	1	2	3	5	7
Sequence 1	7	14	21	35	49
Sequence 2	21	42	63	105	?

(A) 126
(B) 127
● 147
(D) 154

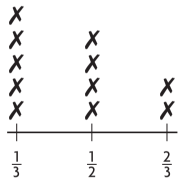
12. The graph shows the relationship between the number of weeks and the number of hours spent on the computer.



What rule relates the number of weeks to the number of hours of computer time?

● Multiply the number of weeks by 3.
(B) Multiply the number of weeks by 2.
(C) Multiply the number of weeks by $2\frac{1}{2}$.
(D) Multiply the number of hours by 3.

13. Otis is cutting a long piece of wood trim into smaller pieces for an art project. The line plot shows the length of the smaller pieces of wood.



How many pieces of wood will be at **least** $\frac{1}{2}$ foot in length?

(A) 9
(B) 7
● 6
(D) 4

14. Adela is buying a DVD player on layaway for $210. If she makes a down payment of $30 and pays $15 each week, how many weeks will it take Adela to pay for the DVD player?

(A) 10
● 12
(C) 16
(D) 14

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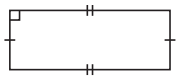
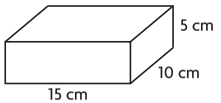
15. Tony drew a picture of his vegetable garden.



What type of polygon is Tony's vegetable garden?

● rectangle
(B) rhombus
(C) square
(D) triangle

16. Kevin made a jewelry box with the dimensions shown.



What is the volume of the jewelry box?

● 750 cubic centimeters
(B) 225 cubic centimeters
(C) 150 cubic centimeters
(D) 75 cubic centimeters

17. The bricks Mr. Johnson used to make his patio are shaped like regular octagons. Which of the following describes a regular octagon?

(A) a figure with 6 sides and 6 angles that are not congruent
(B) a figure with 6 congruent sides and 6 congruent angles
● a figure with 8 congruent sides and 8 congruent angles
(D) a figure with 5 congruent sides and 5 congruent angles

18. A shipping carton in the shape of a rectangular prism has a volume of 756 cubic inches. The base area of the shipping carton is 42 square inches. What is the height of the shipping carton?

(A) 15 inches
● 18 inches
(C) 19 inches
(D) 28 inches

19. The Ceramic Tile Company uses 32 tiles for each counter top it makes. About how many counter tops can it make from its last shipment of 1,486 tiles?

(A) 65
(B) 60
● 50
(D) 40

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20. The swimming instructor has a list of 152 students who have signed up for swimming lessons. The swimming instructor can register 12 students in each class. What is the least number of classes needed for all the students to be registered in a class?

(A) 12
● 13
(C) 14
(D) 15

21. Kayla has a T-shirt store. She sold three times as many white T-shirts as blue T-shirts. She sold a total of 48 T-shirts. How many white T-shirts did Kayla sell?

(A) 46
● 36
(C) 24
(D) 12

22. The owner of a music store received a shipment of 1,532 CDs. The CDs came in 37 boxes. The same number of CDs were in 36 of the boxes. How many CDs were in the remaining box?

(A) 2
(B) 10
● 20
(D) 41

23. Miguel has 48 coins. Of the 48 coins, $\frac{5}{8}$ are dimes. How many of the coins are dimes?

● 30
(B) 26
(C) 20
(D) 18

24. Dominic spent $2\frac{3}{4}$ hours on his art project. Rachel worked $1\frac{1}{3}$ times as long on her art project as Dominic worked. For how many hours did Rachel work on her art project?

(A) $2\frac{2}{3}$ hours
(B) 3 hours
● $3\frac{2}{3}$ hours
(D) $4\frac{7}{12}$ hours

25. Ariana has $\frac{2}{3}$ quart of milk. She uses $\frac{3}{4}$ of it in a cookie recipe. How much milk did Ariana use in her recipe?

(A) $\frac{1}{8}$ quart
(B) $\frac{1}{4}$ quart
(C) $\frac{1}{3}$ quart
● $\frac{1}{2}$ quart

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26. Brian had 42 class fair tickets to sell. He sold $\frac{5}{6}$ of the tickets. How many tickets did Brian sell?

(A) 40
● 35
(C) 25
(D) 7

27. Zoey made $6\frac{3}{4}$ cups of fruit salad for a picnic. At the picnic, they ate $\frac{1}{3}$ of the fruit salad. How much fruit salad did they eat?

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

28. Hiroshi is stacking bricks to make a garden wall. There are 18 bricks in all. If each brick weighs 5.3 pounds, how much do the bricks weigh in all?

(A) 9.54 pounds
● 95.4 pounds
(C) 144 pounds
(D) 954 pounds

29. A 120-watt light bulb uses about 0.1 kilowatt of electricity per hour. If electricity costs $0.20 per kilowatt hour, how much does it cost to have the bulb on for an hour?

● $0.02
(B) $0.20
(C) $2.00
(D) $20.00

30. Jeff had reached the highest level on his new computer game. The computer reported his score as 1.35×10^5 points. How should Jeff write his score in standard form?

(A) 135
(B) 1,350
(C) 13,500
● 135,000

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31. Mario went on a hike with his friends. They hiked 2.24 miles an hour for 8 hours. How many miles did they hike in all?

- (A) 1.792 miles
- (B) 17.92 miles
- (C) 19.92 miles
- (D) 179.2 miles

32. There is $\frac{1}{2}$ gallon of fruit punch that will be shared equally among 5 friends. What fraction of a gallon of punch will each friend get?

- (A) $\frac{1}{4}$ gallon
- (B) $\frac{1}{5}$ gallon
- (C) $\frac{1}{10}$ gallon
- (D) $\frac{1}{12}$ gallon

33. At lunch, 8 friends share 6 sandwiches equally. What fraction of a sandwich does each friend get?

- (A) $\frac{3}{4}$
- (B) $\frac{2}{3}$
- (C) $\frac{1}{2}$
- (D) $\frac{1}{3}$

34. Luis has $\frac{5}{8}$ quart of grape juice. He pours the same amount into each of 5 glasses. Which equation represents the fraction of a quart of grape juice n that is in each glass?

- (A) $\frac{5}{8} \div \frac{1}{5} = n$
- (B) $5 \div \frac{5}{8} = n$
- (C) $\frac{5}{8} \div 5 = n$
- (D) $5 \div 8 = n$

35. Yoko evaluates $7 \div \frac{1}{6}$ by using a related multiplication expression. Which multiplication expression should she use?

- (A) $\frac{1}{7} \times \frac{1}{6}$
- (B) 7×6
- (C) $\frac{1}{7} \times 6$
- (D) $7 \times \frac{1}{6}$

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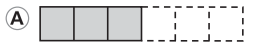
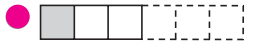
36. Scott made a casserole for dinner. He gave equal portions of $\frac{1}{2}$ the casserole to 3 friends. What diagram could Scott use to find the fraction of the whole casserole that each friend got?

- (A) 
- (B) 
- (C) 
- (D) 

37. Adela rode her bicycle 18.3 miles in 5 hours. Which gives the **best** estimate of how far Adela rode in 1 hour?

- (A) between 5 and 6 miles
- (B) between 4 and 5 miles
- (C) between 3 and 4 miles
- (D) between 2 and 3 miles

38. Lauren is running in a race to raise money for her favorite charity. The total distance of the race is 12.5 miles. So far she has run $\frac{1}{10}$ of the race. How far has Lauren run?

- (A) 12.5 miles
- (B) 2.25 miles
- (C) 1.25 miles
- (D) 0.125 mile

39. Tony is making small bags of bird seed from a larger bag of bird seed that weighs 11.16 pounds. If he puts the same amount of seed in each of 6 bags, how much will each bag weigh?

- (A) 0.18 pound
- (B) 1.86 pounds
- (C) 1.96 pounds
- (D) 2.86 pounds

40. Leon bought trail mix that cost $0.78 per pound. He paid $6.24 for the trail mix. How many pounds of trail mix did he buy?

- (A) 8 pounds
- (B) 7 pounds
- (C) 0.8 pound
- (D) 0.08 pound

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41. Jordan spent a total of $14.85 on a trip to the zoo. She spent $6.50 to get into the zoo, $2.85 on snacks, and the rest on bus fares. How much did she spend on bus fares to and from the zoo?

- (A) $5.05
- ● $5.50
- (C) $8.35
- (D) $9.35

42. A museum announces that it has just had its 1,326,871 visitor. What is the value of the digit 6 in 1,326,871?

- ● 6,000
- (B) 60,000
- (C) 600,000
- (D) 6,000,000

43. Ricardo just received a shipment of 50 tool sheds for his garden supply store. Each shed costs him $40. Which of the following could Ricardo use to find the total amount he will pay for the tool sheds?

- (A) $(5 \times 4) \times 10^1 = 200$
- ● $(5 \times 4) \times 10^2 = 2{,}000$
- (C) $(5 \times 4) \times 10^3 = 20{,}000$
- (D) $(5 \times 4) \times 10^4 = 200{,}000$

44. Mark's father travels 463 miles every month for his job. How many miles does he travel in 8 months?

- (A) 3,204 miles
- (B) 3,284 miles
- (C) 3,604 miles
- ● 3,704 miles

45. Lucas and his sister Luisa are saving to buy a birthday present for their mother. The present costs $95. Lucas earns $16 per week running errands for neighbors and spends $7 of it. Luisa earns $24 per week babysitting and spends $12 of it. Which expression can be used to find how many weeks it will take to save for the present?

- (A) $95 \div [(16 + 7) - (24 - 12)]$
- (B) $95 \div [(16 + 7) - (24 + 12)]$
- ● $95 \div [(16 - 7) + (24 - 12)]$
- (D) $95 \div [(16 - 7) + (24 + 12)]$

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46. Hoy uploaded 56 photos to his computer. He put an equal number of photos in each of 8 folders. Which multiplication sentence could Hoy use to find the number of photos in each folder?

- (A) $8 \times 9 = 72$
- (B) $8 \times 8 = 64$
- ● $7 \times 8 = 56$
- (D) $6 \times 8 = 48$

47. Ella's home is 1,200 feet from the mall. How many yards are in 1,200 feet?

- (A) 300 yards
- ● 400 yards
- (C) 450 yards
- (D) 600 yards

48. Mason bought 64 ounces of modeling clay. How many pounds of clay did he buy?

- (A) 2 pounds
- (B) 3 pounds
- ● 4 pounds
- (D) 6 pounds

49. The movie started at 6:32 P.M. and ended at 9:48 P.M. How long did the movie last?

- (A) 2 hours 6 minutes
- (B) 2 hours 16 minutes
- ● 3 hours 16 minutes
- (D) 3 hours 6 minutes

50. Ben used 325 centimeters of ribbon to trim banners he made. How many meters of ribbon did he use?

- (A) 0.0325 meter
- (B) 0.325 meter
- ● 3.25 meters
- (D) 32.5 meters

STOP