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.

$5 \times \frac{2}{3} = \frac{\square}{3} =$ _____ 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?

_____ feet

GO ON

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, [$\frac{1}{2}$ / $\frac{3}{4}$ / $\frac{3}{8}$] 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.

_____ 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.

(A) Jessica rides the bus $35\frac{1}{5}$ miles in 4 days.

(B) Jessica rides the bus $61\frac{4}{5}$ miles in 7 days.

(C) Jessica rides the bus 88 miles in 10 days.

(D) Jessica rides the bus $218\frac{2}{5}$ miles in 25 days.

GO ON

7. Write each multiplication expression in the correct box.

$\frac{2}{3} \times \frac{2}{3}$ $\frac{5}{6} \times \frac{2}{3}$ $4\frac{1}{8} \times \frac{2}{3}$ $\frac{4}{4} \times \frac{2}{3}$ $\frac{2}{3} \times 2$ $\frac{2}{3} \times \frac{5}{5}$

Product is equal to $\frac{2}{3}$.	Product is greater than $\frac{2}{3}$.	Product is less than $\frac{2}{3}$.

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.

(A) 6 feet by 8 feet

(B) 10 feet by 18 feet

(C) 9 feet by 12 feet

(D) 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?

_____ of the students

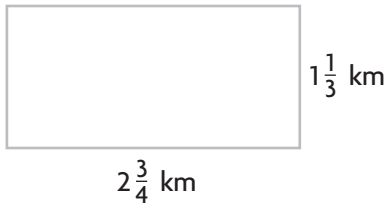
Part B

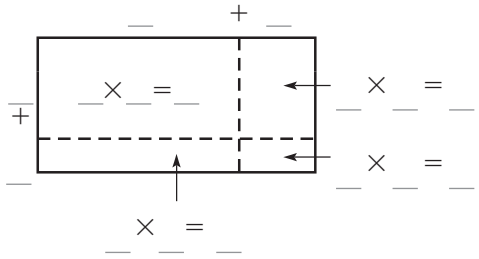
What fraction of the students in the class like to go to action movies and comedies? Explain how you found your answer.

_____ of the students

GO ON

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.





area of the field = _____ 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?

_____ multigrain bagels

12b. How many bran muffins did Andrea buy?

_____ bran muffins

GO ON

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	$3\frac{1}{4}$

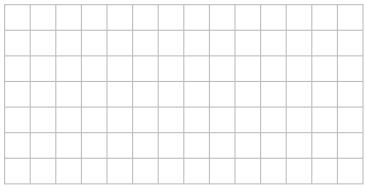
Next week the 4th graders hope to collect $1\frac{1}{3}$ times as many bags of canned goods as the first week. The 5th graders' goal is to collect $1\frac{3}{4}$ times as many bags of canned goods as they collected in week 1. The 6th graders hope to collect $1\frac{1}{2}$ times as many bags of canned goods. Match each class to the number of bags of canned goods they hope to collect next week.

Class	Next Week's Goal (bags)
4th Graders •	• $4\frac{13}{16}$
5th Graders •	• $4\frac{7}{8}$
6th Graders •	• $4\frac{2}{3}$

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.



Part B

What is the area of the section of wall? Explain how you found your answer.

_____ square feet

GO ON

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.

$$\frac{2}{5} \times \frac{1}{4} = \frac{2 \times \square}{5 \times \square} = \frac{\square}{\square} = \frac{\square}{\square}$$

1	2	3	4
5	10	12	20

_____ 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	$\frac{3}{4}$ pound potatoes, diced
3 carrots, diced	$\frac{1}{2}$ cup each green beans, corn, peas
2 celery stalks, diced	2 32-oz containers beef stock
$1\frac{3}{4}$ cups diced tomatoes	1 teaspoon salt

Part A

Write an expression that Katrina can use to determine how many pounds of potatoes are needed for 8 batches.

_____

Part B

Draw a model to show how Katrina can find the product from Part A.

Part C

Does Katrina have enough potatoes for 8 batches of the soup? Explain your reasoning.

STOP