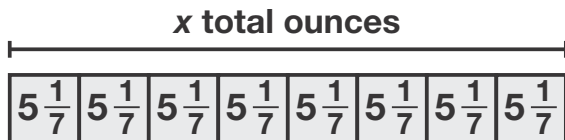


Name _____

1. Which rectangle has the greater area, a rectangle with length $\frac{8}{15}$ yard and width $\frac{1}{6}$ yard or a rectangle with length $\frac{1}{3}$ yard and width $\frac{2}{5}$ yard? **1 point**

a rectangle with length $\frac{1}{3}$ yard and width $\frac{2}{5}$ yard

2. Baseball doughnuts are weights placed on baseball bats during warmup. A high school team uses baseball doughnuts that weigh $5\frac{1}{7}$ ounces each.



- A. Write an equation using the variable x to model the total weight of 8 baseball doughnuts. **1 point**

$$5\frac{1}{7} \times 8 = x$$

- B. What is the total weight of 8 baseball doughnuts? **1 point**

$41\frac{1}{7}$ ounces

- C. Explain how to estimate the total weight of 12 baseball doughnuts. **1 point**

Sample answer: Round $5\frac{1}{7}$ to 5; $5 \times 12 = 60$ ounces

3. Explain whether the given equation is true or not. **2 points**

$$\frac{3}{4} \times \frac{7}{2} = \frac{21}{8}$$

The equation is true. Multiply 3 and 7 to get 21, and multiply 4 and 2 to get 8.

4. Complete the equation. Show your work.

$$16 \times \frac{5}{8} = ? \quad \mathbf{2 \text{ points}}$$

$$\mathbf{10; 16 \times \frac{5}{8} = \frac{16}{1} \times \frac{5}{8} = \frac{80}{8} = 10}$$

5. Select all the equations that are equal to $\frac{3}{4} \times 9$. **1 point**

- $3 \div 4 \times 9 = 6\frac{3}{4}$
 $3 \times 4 \div 9 = \frac{4}{3}$
 $9 \times 3 \div 4 = \frac{27}{4}$
 $9 \times 4 \div 3 = 12$
 $4 \div 3 \times 9 = 12$

6. Francesca had 32 cups of flour. She used $\frac{3}{8}$ of the flour for a recipe. How much flour did Francesca use? Write an equation to model your work. **2 points**

$$\mathbf{12 \text{ cups; } 32 \times \frac{3}{8} = 12}$$

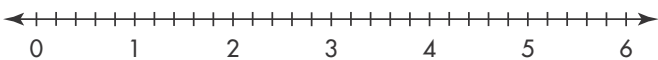
7. Katsuro ran $3\frac{1}{6}$ miles each day for a week. How far did he run in all? Give an estimate, and then find the actual amount. Show your work. **2 points**

$$3 \times 7 = 21$$

1 week = 7 days;

$$3\frac{1}{6} \times 7 = 22\frac{1}{6}\text{miles}$$

8. Quinn has 6 bottles of water that each weigh $\frac{3}{5}$ pound. What is the total weight of the water bottles? If he adds 2 more water bottles of the same weight, what is the total weight of the water bottles? Use the number line to help. **2 points**



$3\frac{3}{5}$ pounds; $4\frac{4}{5}$ pounds

9. Complete the equation. Explain how you got your answer. **2 points**

$$\frac{4}{5} \times \frac{3}{7} = ?$$

$\frac{12}{35}$; Multiply 4 and 3 to get 12, and multiply 5 and 7 to get 35.

10. Zac collected 4 pounds of aluminum cans. Brittney collected $1\frac{1}{3}$ times as many pounds as Zac. Eduardo collected $\frac{7}{8}$ as many pounds as Zac. Mia collected $\frac{7}{7}$ as many pounds as Zac.

- A. Without multiplying, who collected more pounds of cans than Zac? Explain. **2 points**

Brittney; Since $1\frac{1}{3}$ is greater than 1, 4 times $1\frac{1}{3}$ is greater than 4.

- B. Without multiplying, who collected fewer pounds of cans than Zac? Explain. **2 points**

Eduardo; Since $\frac{7}{8}$ is less than 1, 4 times $\frac{7}{8}$ is less than 4.

- C. Who collected the same number of pounds of cans as Zac? Explain. **2 points**

Mia; Since $\frac{7}{7}$ is the same as 1, 4 times $\frac{7}{7}$ is the same as 4.

11. Find the product $\frac{8}{9} \times \frac{4}{5}$. Then write another expression with the same product. **2 points**

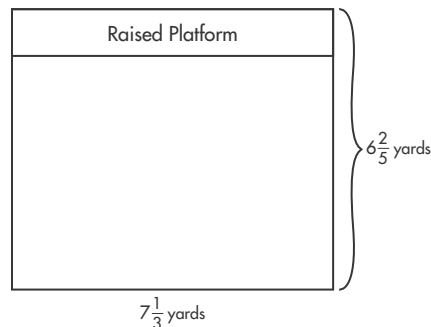
$$\frac{32}{45}$$

Sample answer: $\frac{8}{3} \times \frac{4}{15}$

12. Which of the following is equal to $\frac{3}{8} \times \frac{5}{14}$? **1 point**

- (A) $\frac{3 \times 8}{5 \times 14} = \frac{24}{70}$
 (B) $\frac{14 \times 3}{5 \times 8} = \frac{42}{40}$
 (C) $\frac{8 \times 14}{3 \times 5} = \frac{112}{15}$
 (D) $\frac{3 \times 5}{8 \times 14} = \frac{15}{112}$

13. The floor of a rectangular meeting room has a raised platform that is the same length as the room and is $\frac{1}{6}$ the width of the room.



- A. What is the width of the raised platform? Write an equation to model your work. **2 points**

$$1\frac{1}{15} \text{ yards; } 6\frac{2}{5} \times \frac{1}{6} = 1\frac{1}{15}$$

- B. Estimate the area of the floor, including the raised platform. **1 point**

$$\text{Sample answer: } 42 \text{ sq yd}$$

- C. What is the area of the entire floor, including the raised platform? Write an equation to show your work. Compare your answer to your estimate to see if your answer is reasonable. **3 points**

$$46\frac{14}{15} \text{ sq yd; } 7\frac{1}{3} \times 6\frac{2}{5} = 46\frac{14}{15}; \text{ Since } 46\frac{14}{15} \text{ is close to } 42, \text{ my answer is reasonable.}$$

14. There are 18 students in the Math Club.



- A. Of the 18 students, $\frac{1}{6}$ have red hair. How many of the students have red hair? Use the model to help you. **1 point**

3 have red hair.

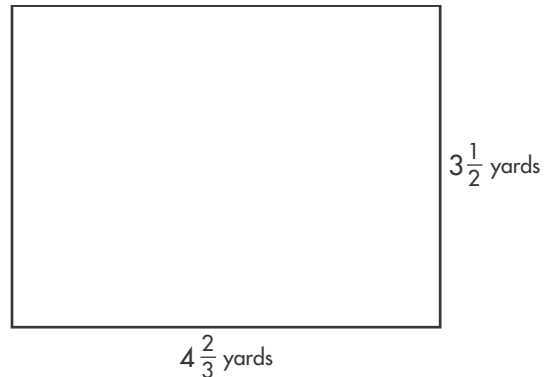
- B. Of the 18 students, $\frac{4}{6}$ have brown hair. How many of the students have brown hair? Use the model to help you. **1 point**

12 have brown hair.

- C. What relationship do you notice between the number of students with brown hair and the number of students with red hair? **1 point**

Sample answer: There are 4 times as many students with brown hair as red hair.

15. Jawad's bedroom has one wall that does not have a door or window.



- A. Estimate the area of the wall. Write an equation to model your work. **2 points**

**Sample answer:
20 sq yd; $4 \times 5 = 20$**

- B. Find the actual area of the wall. Write your answer as a mixed number. **1 point**

$16\frac{1}{3}$ sq yd

- C. Compare your answer to your estimate to see if your answer is reasonable. **1 point**

Since $16\frac{1}{3}$ is close to 20, my answer is reasonable.