Name _____

Interpret the Remainder

CC.5.NF.3

Interpret the remainder to solve.

1. Warren spent 140 hours making 16 wooden toy trucks for a craft fair. If he spent the same amount of time making each truck, how many hours did he spend making each truck?

$$16\overline{)140} \quad -128 \quad 12 \quad (8)$$

$8\frac{3}{4}$ hours

2. Marcia has 412 bouquets of flowers for centerpieces. She uses 8 flowers for each centerpiece. How many centerpieces can she make?

51 R4 — Not enough to make another

51 centerpieces

3. On the 5th grade class picnic, 50 students share 75 sandwiches equally. How many sandwiches does each student get?

1 R25 — Not enough for everyone to get another

1 sandwich

4. One plant container holds 14 tomato seedlings. If you have 1,113 seedlings, how many containers do you need to hold all the seedlings?

79 R7 → Need a container for these

80 containers

Problem Solving

5. Fiona bought 212 stickers to make a sticker book. If she places 18 stickers on each page, how many pages will her sticker book have?

11 R14 — Need a page for these

12 pages

6. Jenny has 220 ounces of cleaning solution that she wants to divide equally among 12 large containers. How much cleaning solution should she put in each container?

18 R4

$18\frac{1}{3}$ ounces

Need exact answer

$18\frac{4}{12} = 18\frac{1}{3}$

Name _____

Fraction and Whole Number Multiplication

CC.5.NF.4a

Find the product. Write the product in simplest form.

1. $4 \times \frac{5}{8} =$ $2\frac{1}{2}$

$4 \times \frac{5}{8} = \frac{20}{8}$

$\frac{20}{8} = 2\frac{4}{8}$, or $2\frac{1}{2}$

2. $\frac{2}{9} \times 3 =$ $\frac{2}{3}$

$\frac{2}{9} \times \frac{3}{1} = \frac{2}{3}$

3. $\frac{4}{5} \times 10 =$ 8

$\frac{4}{5} \times \frac{10}{1} = \frac{8}{1} =$

4. $\frac{3}{4} \times 9 =$ $6\frac{3}{4}$

$\frac{3}{4} \times \frac{9}{1} = \frac{27}{4} = 6\frac{3}{4}$

5. $8 \times \frac{5}{6} =$ $6\frac{2}{3}$

$\frac{8}{1} \times \frac{5}{6} = \frac{20}{3} = 6\frac{2}{3}$

6. $7 \times \frac{1}{2} =$ $3\frac{1}{2}$

$\frac{7}{1} \times \frac{1}{2} = \frac{7}{2} = 3\frac{1}{2}$

7. $\frac{2}{5} \times 6 =$ $2\frac{2}{5}$

$\frac{2}{5} \times \frac{6}{1} = \frac{12}{5} = 2\frac{2}{5}$

8. $9 \times \frac{2}{3} =$ 6

$\frac{9}{1} \times \frac{2}{3} = \frac{6}{1} = 6$

9. $\frac{3}{10} \times 9 =$ $2\frac{7}{10}$

$\frac{3}{10} \times \frac{9}{1} = \frac{27}{10} = 2\frac{7}{10}$

10. $4 \times \frac{3}{8} =$ $1\frac{1}{2}$

$\frac{4}{1} \times \frac{3}{8} = \frac{12}{8} = 1\frac{4}{8} =$

11. $\frac{3}{5} \times 7 =$ $4\frac{1}{5}$

$\frac{3}{5} \times \frac{7}{1} = \frac{21}{5} = 4\frac{1}{5}$

12. $\frac{1}{8} \times 6 =$ $\frac{3}{4}$

$\frac{1}{8} \times \frac{6}{1} = \frac{3}{4}$

Problem Solving

13. Leah makes aprons to sell at a craft fair. She needs $\frac{3}{4}$ yard of material to make each apron. How much material does Leah need to make 6 aprons?

$4\frac{1}{2}$ yards

$\frac{3}{4} \times \frac{6}{1} = \frac{18}{4} = 4\frac{2}{4} =$

14. The gas tank of Mr. Tanaka's car holds 15 gallons of gas. He used $\frac{2}{3}$ of a tank of gas last week. How many gallons of gas did Mr. Tanaka use?

10 gallons

$\frac{2}{3}$ of 15 $\frac{2}{3} \times \frac{15}{1} = \frac{10}{1} = 10$

Multiplying by a... Whole # - makes the product higher

Name fraction - makes the product smaller

Compare Fraction Factors and Products

CC.5.NF.5a

Complete the statement with *equal to*, *greater than*, or *less than*.

1. $\frac{3}{5} \times \frac{4}{7}$ will be less than $\frac{4}{7}$.

   Think: $\frac{4}{7}$ is multiplied by a number less than 1; so, $\frac{3}{5} \times \frac{4}{7}$ will be less than $\frac{4}{7}$.

2. $5 \times \frac{7}{8}$ will be more than $\frac{7}{8}$.

   5 is a whole #

3. $6 \times \frac{2}{5}$ will be more than $\frac{2}{5}$.

4. $\frac{1}{9} \times 1$ will be equal to $\frac{1}{9}$.

5. $\frac{7}{8} \times \frac{3}{5}$ will be less than $\frac{3}{5}$.

6. $\frac{4}{5} \times \frac{7}{7}$ will be equal to $\frac{4}{5}$.

Problem Solving

7. Starla is making hot cocoa. She plans to multiply the recipe by 4 to make enough hot cocoa for the whole class. If the recipe calls for $\frac{1}{2}$ teaspoon vanilla extract, will she need more than $\frac{1}{2}$ teaspoon or less than $\frac{1}{2}$ teaspoon of vanilla extract to make all the hot cocoa?

   More than

   $4 \times \frac{1}{2}$

8. Miles is planning to spend $\frac{2}{3}$ as many hours bicycling this week as he did last week. Is Miles going to spend more hours or fewer hours bicycling this week than last week?

   less fewer hours

   $\frac{2}{3} \times$ ___ ↑ whatever hours she spent last week

Name _____

CC.5.NF.5b

Problem Solving • Find Unknown Lengths

1. Kamal's bedroom has an area of 120 square feet. The width of the room is $\frac{5}{6}$ the length of the room. What are the dimensions of Kamal's bedroom?

Guess: $6 \times 20 = 120$

Check: $\frac{5}{6} \times 20 = 16\frac{2}{3}$; try a longer width.

Guess: $10 \times 12 = 120$

Check: $\frac{5}{6} \times 12 = 10$. Correct!

10 feet by 12 feet

2. Marisol is painting on a piece of canvas that has an area of 180 square inches. The length of the painting is $1\frac{1}{4}$ times the width. What are the dimensions of the painting?

180

3. A small plane is flying a banner in the shape of a rectangle. The area of the banner is 144 square feet. The width of the banner is $\frac{1}{4}$ the length of the banner. What are the dimensions of the banner?

4. An artificial lake is in the shape of a rectangle and has an area of $\frac{9}{20}$ square mile. The width of the lake is $\frac{1}{5}$ the length of the lake. What are the dimensions of the lake?