

Eureka Math
&
Engage NY
Mid-Module Review
5th Grade
Module 4

Created by: Andrea McDonald

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Eureka Math Mid-Module Review 5.4

Name _____

Date _____

1. Multiply or divide. Draw a model to explain your thinking.

a. $\frac{1}{4} \times 8$

b. $\frac{1}{3} \times 6$

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

d. $\frac{1}{5} \times 20$

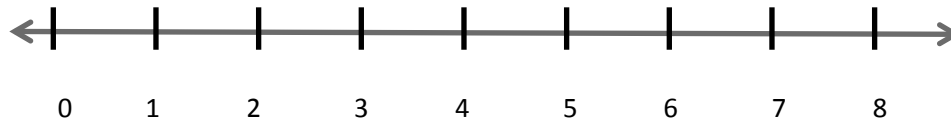
e. $\frac{1}{8}$ of 4 yards = _____ feet

f. $\frac{1}{4}$ of 6 feet = _____ inches

g. $\left(2 + \frac{1}{4}\right) \times 12$

h. $3\frac{1}{3} \times 11$

2. If the whole bar is 8 units long, what is the length of the shaded part of the bar? Write a multiplication equation for the diagram, and then solve.



3. Circle the expression(s) that are equal to $\frac{2}{4} \times 8$. Explain why the others are *not* equal using words, pictures, or numbers.

a. $2 \times \frac{8}{4}$

b. $(2 \times 8) \div 4$

c. $2 \div (4 \times 8)$

d. $2 \times (8 \div 4)$

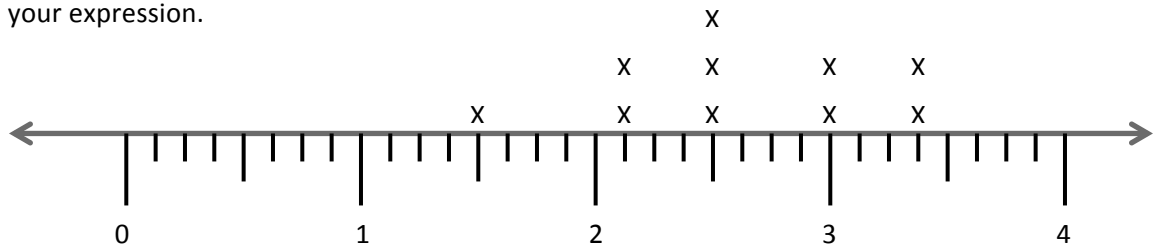
4. Write the following as expressions.

a. One-third the difference between $\frac{3}{4}$ and $\frac{1}{5}$.

b. One-fifth the sum of 8 and 2.

c. Seven times the quotient of 2 and 3.

5. Mrs. Little made coffee each day on her 10 day family vacation. The following line plot shows the amount of cups of coffee her family drank each day. Write an expression that includes multiplication to show how to find the total amount of coffee the family drank each day. Then, solve your expression.



6. Mrs. Little used the following recipe to make pancakes. She decided to make $\frac{3}{4}$ of the recipe.

8 cups bisquick
5 cups skim milk
4 eggs

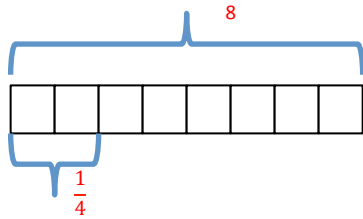
- a. How much of each ingredient will she need? Write an expression that includes multiplication. Solve by multiplying.
- b. How many fluid ounces of milk will she use? (You may use your measurement conversion chart)
- c. Mrs. Little made 21 pancakes. She gives $\frac{2}{3}$ of the pancakes to her children and gave the rest to her husband. How many pancakes did she give to her husband? Use any method to solve.

Answer Key

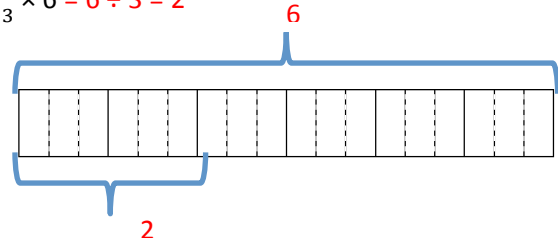
Multiply or divide. Draw a model to explain your thinking. (4pts = 8 parts correct with models, 3pts = 6 or more parts correct with models, 2pts= 4 or 5 correct with models, 1pt = 2 or 3 correct with models)(5.NF.4, 5.MD.1)

1.

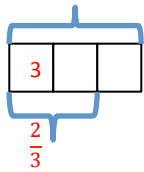
a. $\frac{1}{4} \times 8 = 8 \div 4 = 2$



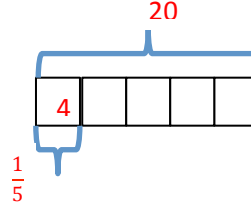
b. $\frac{1}{3} \times 6 = 6 \div 3 = 2$



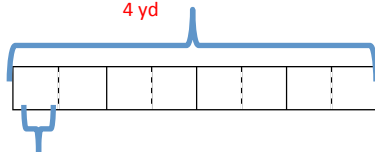
c. $\frac{2}{3} \times 9 = 6$



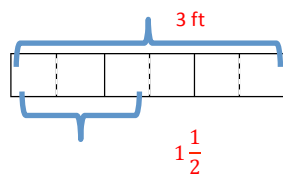
d. $\frac{1}{5} \times 20 = 4$



e. $\frac{1}{8}$ of 4 yards = $1\frac{4}{8}$ or $1\frac{1}{2}$ feet

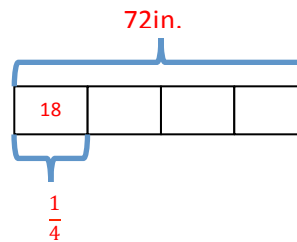


$\frac{1}{2}$ of 1 yard = $\frac{1}{2}$ of 3 feet



f. $\frac{1}{4}$ of 6 feet = 18 inches

6×12 inches = 72 inches



g. $(2 + \frac{1}{4}) \times 12 = 27$

$$= (2 \times 12) + (\frac{1}{4} \times 12)$$

$$= 24 + \frac{12}{4}$$

$$= 24 + 3 = 27$$

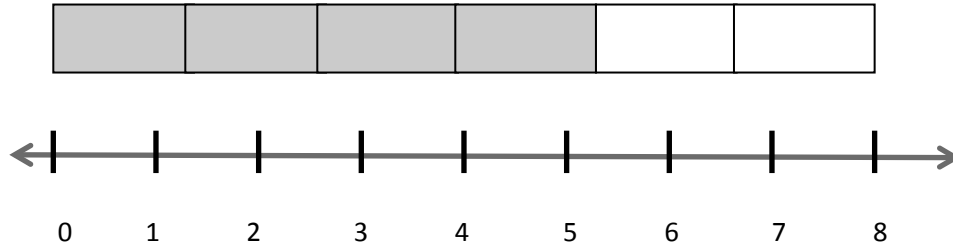
h. $3\frac{1}{3} \times 11 = 36\frac{2}{3}$

$$= (3 \times 11) + (\frac{1}{3} \times 11)$$

$$= 33 + \frac{1 \times 11}{3}$$

$$= 33 + \frac{11}{3} = 33 + 3\frac{2}{3} = 36\frac{2}{3}$$

2. If the whole bar is 8 units long, what is the length of the shaded part of the bar? Write a multiplication equation for the diagram, and then solve. (4pts = correctly writes equation with correct answer, 3pts = correctly writes equation with incorrect answer, 2pts=Incorrect equation with approximate answer, 1pt = shows no understanding)(5.NF.3, 5.NF.4)



$$\frac{4}{6} \times 8 = \frac{4 \times 8}{6} = \frac{32}{6} = 5 \frac{2}{6} \text{ or } 5 \frac{1}{3}$$

The shaded part of the bar is $5 \frac{1}{3}$ units long

3. Circle the expression(s) that are equal to $\frac{2}{4} \times 8$. Explain why the others are *not* equal using words, pictures, or numbers. (4pts = a,b and d are equal and c not equal, 3pts = identifies 2 equal expressions, 2pts= correctly identifies 1 expression, 1pt = unable to identify any equal expressions)(5.OA.1)

a. $2 \times \frac{8}{4}$

$$\frac{2}{4} \times 8 = \frac{2 \times 8}{4} = \frac{16}{4} = 4$$

b. $(2 \times 8) \div 4$

c. $2 \div (4 \times 8)$

$$= 2 \div 32 = \frac{2}{32} \text{ or } \frac{1}{16}$$

d. $2 \times (8 \div 4)$

4. Write the following as expressions. (4pts = correctly writes 3 expressions, 3pts = correctly writes 2 expressions, 2pts= correctly writes 1 expression, 1pt = unable to write expressions)(5.OA.2)

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- a. One-third the difference between $\frac{3}{4}$ and $\frac{1}{5}$.

$$\frac{1}{3} \times \left(\frac{3}{4} - \frac{1}{5} \right)$$

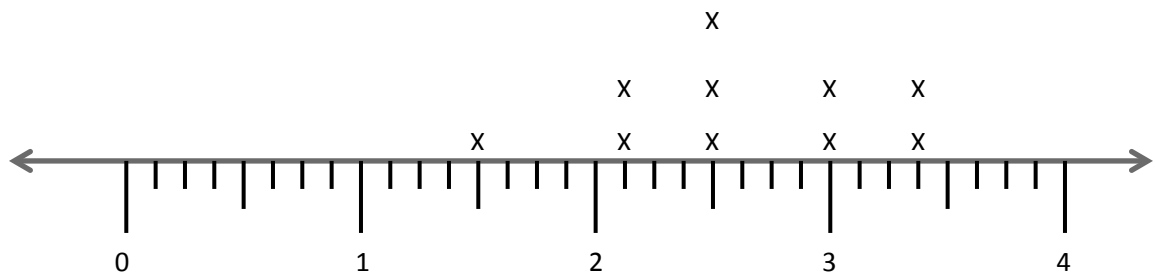
- b. One-fifth the sum of 8 and 2.

$$\frac{1}{5} \times (8 + 2)$$

- c. Seven times the quotient of 2 and 3.

$$7 \times (2 \div 3)$$

5. Mrs. Little made coffee each day on her 10 day family vacation. The following line plot shows the amount of cups of coffee her family drank each day. Write an expression that includes multiplication to show how to find the total amount of coffee the family drank each day. Then, solve your expression. (4pts = accounts for all data points and finds total cups of coffee, 3pts = correct multiplication equation but makes a calculation error, 2pts = either writes correct expression or finds total cups of coffee, 1pt = unable to write expression or find total)(5.NF.4, 5.NF.6, 5.MD.2)



$$1\frac{4}{8} + \left(2 \times 2\frac{1}{8} \right) + \left(3 \times 2\frac{4}{8} \right) + (2 \times 3) + (2 \times 3\frac{3}{8})$$

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

$$= 22 + \frac{12}{8} + \frac{2}{8} + \frac{12}{8} + \frac{6}{8}$$

$$= 22 + \frac{32}{8}$$

$$= 22 + 4$$

$$= 26 \quad \text{Mrs. Little made 26 cups of coffee}$$

6. Mrs. Little used the following recipe to make pancakes. She decided to make $\frac{3}{4}$ of the recipe. (4pts = 5 correct answers, 3pts = 4 correct answers, 2pts = 3 correct answers, 1pt = 2 correct answers)(5.NF.4, 5.NF.6, 5.MD.1)

8 cups bisquick
5 cups skim milk
4 eggs

- a. How much of each ingredient will she need? Write an expression that includes multiplication. Solve by multiplying. (3 answers in this question)

$$\text{Bisquick: } \frac{3}{4} \times 8 \text{ cups} = \frac{3 \times 8}{4} = \frac{24}{4} = 6 \text{ cups}$$

$$\text{Milk: } \frac{3}{4} \times 5 \text{ cups} = \frac{3 \times 5}{4} = \frac{15}{4} = 3 \frac{3}{4} \text{ cups}$$

$$\text{Eggs: } \frac{3}{4} \times 4 \text{ eggs} = \frac{3 \times 4}{4} = \frac{12}{4} = 3 \text{ eggs}$$

- b. How many fluid ounces of milk will she use? (You may use your measurement conversion chart)

$$\begin{aligned} 1 \text{ cup} &= 8 \text{ oz.} & 3\frac{3}{4} \times 8 &= (3 \times 8) + \left(\frac{3}{4} \times 8\right) \\ & & &= 24 + \frac{24}{4} \\ & & &= 24 + 6 \\ & & &= 30 \quad \text{She will use 30 fluid oz. of milk} \end{aligned}$$

- c. Mrs. Little made 21 pancakes. She gives $\frac{2}{3}$ of the pancakes to her children and gave the rest to her husband. How many pancakes did she give to her husband? Use any method to solve.

