

Student Edition

Eureka Math

Grade 5

Module 4

Special thanks go to the Gordon A. Cain Center and to the Department of Mathematics at Louisiana State University for their support in the development of *Eureka Math*.

Name _____

Date _____

1. Fill in the blanks.

a. $\frac{1}{3} \times 1 = \frac{1}{3} \times \frac{3}{3} = \frac{\quad}{9}$

b. $\frac{2}{3} \times 1 = \frac{2}{3} \times \frac{\quad}{\quad} = \frac{14}{21}$

c. $\frac{5}{2} \times 1 = \frac{5}{2} \times \frac{\quad}{\quad} = \frac{25}{\quad}$

d. Compare the first factor to the value of the product.

2. Express each fraction as an equivalent decimal. The first one is partially done for you.

a. $\frac{3}{4} \times \frac{25}{25} = \frac{3 \times 25}{4 \times 25} = \frac{\quad}{100} =$

b. $\frac{1}{4} \times \frac{25}{25} =$

c. $\frac{2}{5} \times \frac{\quad}{\quad} =$

d. $\frac{3}{5} \times \frac{\quad}{\quad} =$

e. $\frac{3}{20}$

f. $\frac{25}{20}$

Name _____

Date _____

1. Solve for the unknown. Rewrite each phrase as a multiplication sentence. Circle the scaling factor and put a box around the number of meters.

a. $\frac{1}{3}$ as long as 6 meters = _____ meter(s)

b. 6 times as long as $\frac{1}{3}$ meter = _____ meter(s)

2. Draw a tape diagram to model each situation in Problem 1, and describe what happened to the number of meters when it was multiplied by the scaling factor.

a.

b.

3. Fill in the blank with a numerator or denominator to make the number sentence true.

a. $5 \times \frac{\quad}{3} > 5$

b. $\frac{6}{\quad} \times 12 < 12$

c. $4 \times \frac{5}{\quad} = 4$

4. Look at the inequalities in each box. Choose a single fraction to write in all three blanks that would make all three number sentences true. Explain how you know.

a.

$\frac{2}{3} \times \underline{\quad} > \frac{2}{3}$

$4 \times \underline{\quad} > 4$

$\frac{5}{3} \times \underline{\quad} > \frac{5}{3}$

b.

$\frac{2}{3} \times \underline{\quad} < \frac{2}{3}$

$4 \times \underline{\quad} < 4$

$\frac{5}{3} \times \underline{\quad} < \frac{5}{3}$

Name _____

Date _____

1.

- a. Sort the following expressions by rewriting them in the table.

| The product is less than the boxed number: | The product is greater than the boxed number: |
|--|---|
| | |

$\boxed{12.5} \times 1.989$

$\boxed{828} \times 0.921$

$\boxed{321.46} \times 1.26$

$\boxed{0.007} \times 1.02$

$\boxed{2.16} \times 1.11$

$\boxed{0.05} \times 0.1$

- b. What do the expressions in each column have in common?

2. Write a statement using one of the following phrases to compare the value of the expressions. Then, explain how you know.

*is slightly more than**is a lot more than**is slightly less than**is a lot less than*

a. 14×0.999 _____ 14

b. 1.01×2.06 _____ 2.06

c. $1,955 \times 0.019$ _____ 1,955

Name _____

Date _____

1. Jesse takes his dog and cat for their annual vet visit. Jesse's dog weighs 23 pounds. The vet tells him his cat's weight is $\frac{5}{8}$ as much as his dog's weight. How much does his cat weigh?

2. An image of a snowflake is 1.8 centimeters wide. If the actual snowflake is $\frac{1}{8}$ the size of the image, what is the width of the actual snowflake? Express your answer as a decimal.

Name _____

Date _____

1. Draw a tape diagram and a number line to solve. Fill in the blanks that follow.

a. $3 \div \frac{1}{3} =$ _____

There are _____ thirds in 1 whole.

There are _____ thirds in 3 wholes.

If 3 is $\frac{1}{3}$, what is the whole? _____

b. $3 \div \frac{1}{4} =$ _____

There are _____ fourths in 1 whole.

There are _____ fourths in _____ wholes.

If 3 is $\frac{1}{4}$, what is the whole? _____

c. $4 \div \frac{1}{3} =$ _____

There are _____ thirds in 1 whole.

There are _____ thirds in _____ wholes.

If 4 is $\frac{1}{3}$, what is the whole? _____

d. $5 \div \frac{1}{4} =$ _____

There are _____ fourths in 1 whole.

There are _____ fourths in _____ wholes.

If 5 is $\frac{1}{4}$, what is the whole? _____

Name _____

Date _____

1. Solve and support your answer with a model or tape diagram. Write your quotient in the blank.

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

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

c. $\frac{1}{4} \div 3 =$ _____

d. $\frac{1}{5} \div 2 =$ _____

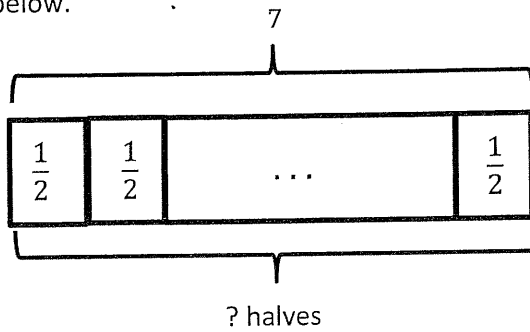
2. Divide. Then, multiply to check.

| | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|
| a. $\frac{1}{2} \div 10$ | b. $\frac{1}{4} \div 10$ | c. $\frac{1}{3} \div 5$ | d. $\frac{1}{5} \div 3$ |
| e. $\frac{1}{8} \div 4$ | f. $\frac{1}{7} \div 3$ | g. $\frac{1}{10} \div 5$ | h. $\frac{1}{5} \div 20$ |

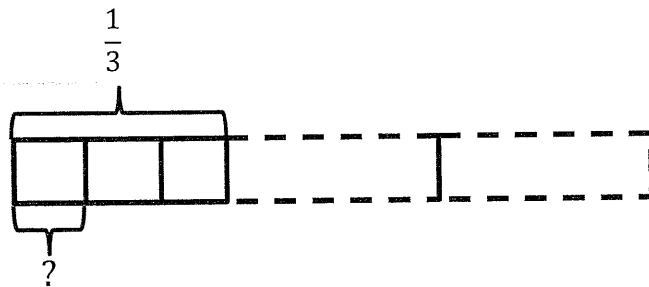
Name _____

Date _____

1. Create and solve a division story problem about 7 feet of rope that is modeled by the tape diagram below.



2. Create and solve a story problem about $\frac{1}{3}$ pound of flour that is modeled by the tape diagram below.



Name _____

Date _____

1. Divide. Rewrite each expression as a division sentence with a fraction divisor, and fill in the blanks. The first one is done for you.

Example: $4 \div 0.1 = 4 \div \frac{1}{10} = 40$

There are 10 tenths in 1 whole.

There are 40 tenths in 4 wholes.

a. $9 \div 0.1$

There are _____ tenths in 1 whole.

There are _____ tenths in 9 wholes.

b. $6 \div 0.1$

There are _____ tenths in 1 whole.

There are _____ tenths in 6 wholes.

c. $3.6 \div 0.1$

There are _____ tenths in 3 wholes.

There are _____ tenths in 6 tenths.

There are _____ tenths in 3.6.

d. $12.8 \div 0.1$

There are _____ tenths in 12 wholes.

There are _____ tenths in 8 tenths.

There are _____ tenths in 12.8.

e. $3 \div 0.01$

There are _____ hundredths in 1 whole.

There are _____ hundredths in 3 wholes.

f. $7 \div 0.01$

There are _____ hundredths in 1 whole.

There are _____ hundredths in 7 wholes.

g. $4.7 \div 0.01$

There are _____ hundredths in 4 wholes.

There are _____ hundredths in 7 tenths.

There are _____ hundredths in 4.7.

h. $11.3 \div 0.01$

There are _____ hundredths in 11 wholes.

There are _____ hundredths in 3 tenths.

There are _____ hundredths in 11.3.

Name _____

Date _____

1. Rewrite the division expression as a fraction and divide. The first two have been started for you.

| | |
|---|---|
| a. $2.4 \div 0.8 = \frac{2.4}{0.8}$ $= \frac{2.4 \times 10}{0.8 \times 10}$ $= \frac{24}{8}$ $=$ | b. $2.4 \div 0.08 = \frac{2.4}{0.08}$ $= \frac{2.4 \times 100}{0.08 \times 100}$ $= \frac{240}{8}$ $=$ |
| c. $4.8 \div 0.6$ | d. $0.48 \div 0.06$ |
| e. $8.4 \div 0.7$ | f. $0.84 \div 0.07$ |

Name _____

Date _____

1. Estimate and then divide. An example has been done for you.

$$78.4 \div 0.7 \approx 770 \div 7 = 110$$

$$= \frac{78.4}{0.7}$$

$$= \frac{78.4 \times 10}{0.7 \times 10}$$

$$= \frac{784}{7}$$

$$= 112$$

$$7 \overline{) 784}$$

$$\underline{-7}$$

$$8$$

$$\underline{-7}$$

$$14$$

$$\underline{-14}$$

$$0$$

a. $61.6 \div 0.8 \approx$

b. $5.74 \div 0.7 \approx$

2. Estimate and then divide. An example has been done for you.

$$7.32 \div 0.06 \approx 720 \div 6 = 120$$

$$= \frac{7.32}{0.06}$$

$$= \frac{7.32 \times 100}{0.06 \times 100}$$

$$= \frac{732}{6}$$

$$= 122$$

$$6 \overline{) 732}$$

$$\underline{-6}$$

$$13$$

$$\underline{-12}$$

$$12$$

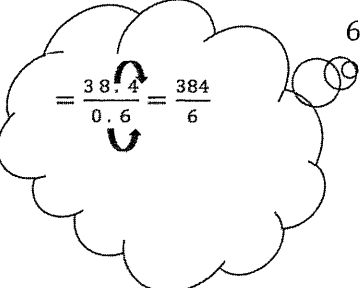
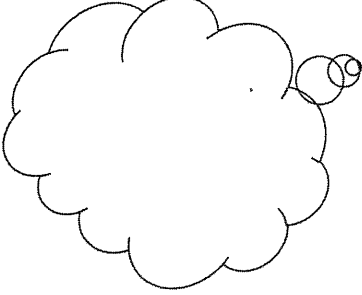
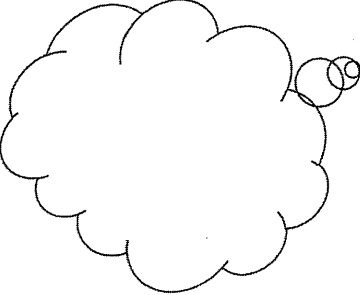
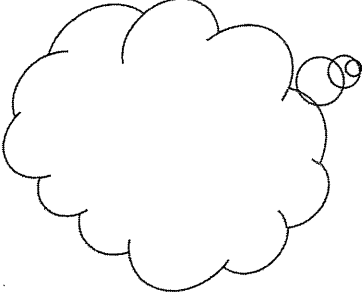
$$\underline{-12}$$

$$0$$

a. $4.74 \div 0.06 \approx$

b. $19.44 \div 0.54 \approx$

3. Solve using the standard algorithm. Use the thought bubble to show your thinking as you rename the divisor as a whole number.

| | |
|--|--|
| <p>a. $38.4 \div 0.6 = \underline{\quad}$</p>  <p style="text-align: right;">$6 \overline{) 384}$</p> | <p>b. $7.52 \div 0.08 = \underline{\quad}$</p>  |
| <p>c. $12.45 \div 0.5 = \underline{\quad}$</p>  | <p>d. $5.6 \div 0.16 = \underline{\quad}$</p>  |

4. Lucia is making a 21.6 centimeter beaded string to hang in the window. She decides to put a green bead every 0.4 centimeters and a purple bead every 0.6 centimeters. How many green beads and how many purple beads will she need?
5. A group of 14 friends collects 0.7 pound of blueberries and decides to make blueberry muffins. They put 0.05 pound of berries in each muffin. How many muffins can they make if they use all the blueberries they collected?

Name _____

Date _____

1. Circle the expression equivalent to *the difference between 7 and 4, divided by a fifth*.

$7 + (4 \div \frac{1}{5})$

$\frac{7-4}{5}$

$(7-4) \div \frac{1}{5}$

$\frac{1}{5} \div (7-4)$

2. Circle the expression(s) equivalent to *42 divided by the sum of $\frac{2}{3}$ and $\frac{3}{4}$* .

$(\frac{2}{3} + \frac{3}{4}) \div 42$

$(42 \div \frac{2}{3}) + \frac{3}{4}$

$42 \div (\frac{2}{3} + \frac{3}{4})$

$\frac{42}{\frac{2}{3} + \frac{3}{4}}$

3. Fill in the chart by writing the equivalent numerical expression or expression in word form.

| | Expression in word form | Numerical expression |
|----|---|--|
| a. | A fourth as much as the sum of $3\frac{1}{8}$ and 4.5 | |
| b. | | $(3\frac{1}{8} + 4.5) \div 5$ |
| c. | Multiply $\frac{3}{5}$ by 5.8; then halve the product | |
| d. | | $\frac{1}{6} \times (4.8 - \frac{1}{2})$ |
| e. | | $8 - (\frac{1}{2} \div 9)$ |

4. Compare the expressions in 3(a) and 3(b). Without evaluating, identify the expression that is greater. Explain how you know.

