

INVESTIGATION: DIVISION OF FRACTIONS

Essential Question

How do you divide by a fraction?

1 ACTIVITY: Dividing by a Fraction

a. Describe the pattern of the **blue numbers**.

b. Describe the pattern of the **red numbers**.
Use the pattern to complete the table.

c. The division $8 \div \frac{1}{2}$ can be read as "How many halves are in 8?" Use the completed table to answer this question. Then draw a model that shows your answer.

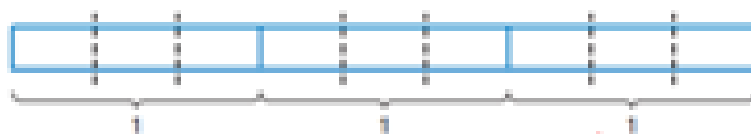
| | |
|----------------------|----------------|
| $8 \div 16$ | $\frac{1}{16}$ |
| $8 \div 8$ | 1 |
| $8 \div 4$ | 2 |
| $8 \div 2$ | 4 |
| $8 \div 1$ | 8 |
| $8 \div \frac{1}{2}$ | |
| $8 \div \frac{1}{4}$ | |
| $8 \div \frac{1}{8}$ | |



2 ACTIVITY: Dividing by a Fraction

Draw a model for $3 \div \frac{2}{3}$. Use the model to answer the question

"How many two-thirds are in 3?"



Division Problem:

Quotient:

$$3 \div \frac{2}{3} = \frac{9}{2}$$

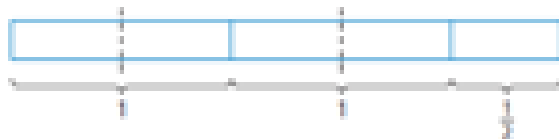
$$4 \frac{1}{2}$$

$\frac{2}{3}$
 $\frac{9}{2}$
 $4 \frac{1}{2}$

3 ACTIVITY: Dividing by a Fraction

Write the division problem and answer it using a model.

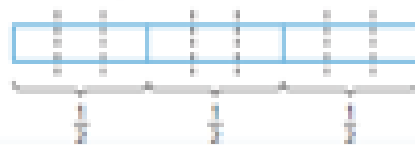
a. How many halves are in five halves?



Division Problem: _____

Quotient: _____

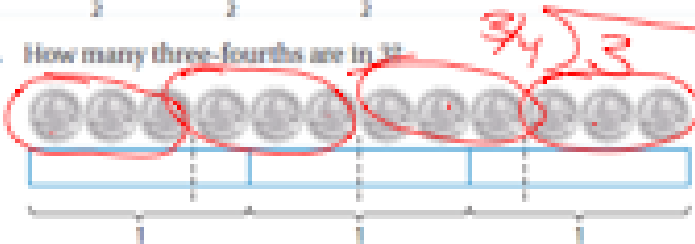
b. How many thirds are in three halves?



Division Problem: _____

Quotient: _____

c. How many three-fourths are in 3?

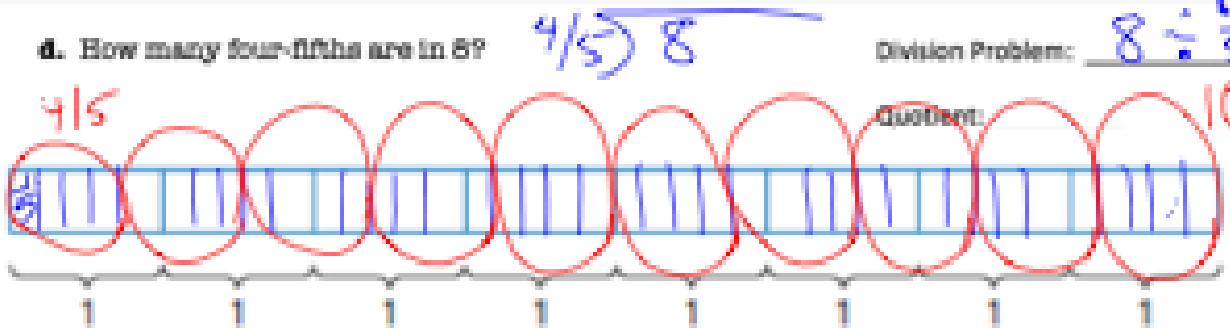


Division Problem: $3 \div \frac{3}{4}$

Quotient: 4

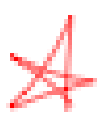


d. How many four-fifths are in 8?

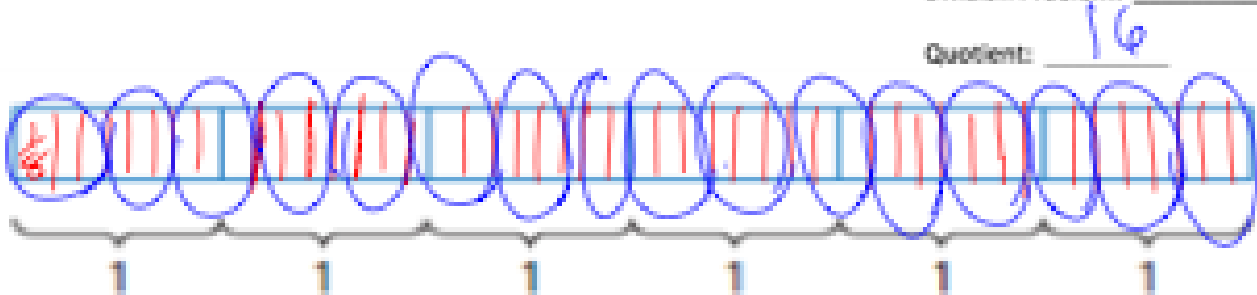


Division Problem: $8 \div \frac{4}{5} = 10$

Quotient: 10



e. How many three-eighths are in 6?



Division Problem: _____

Quotient: 16

Name _____

Date _____

MODELING QUOTIENTS

PART I DIRECTIONS:

1. MODEL EACH SITUATION USING THE RECTANGLES BELOW.
2. WRITE THE DIVISION PROBLEM FOR EACH QUESTION.
3. FIND THE QUOTIENT USING THE MODEL.

1. How many halves are in 3?



Division Problem:

Quotient:

2. How many quarters are in 2?



Division Problem:

Quotient:

3. How many three-fourths are in 6?



Division Problem:

Quotient:

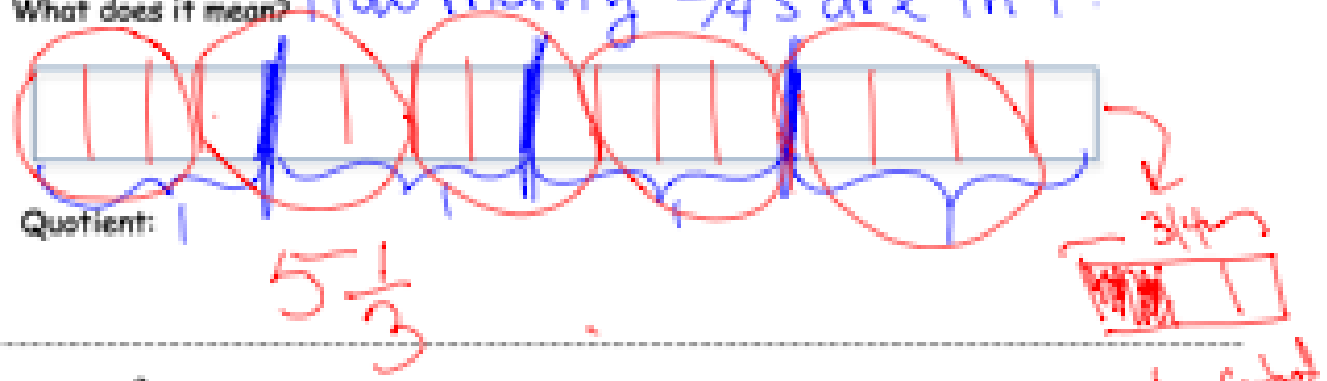
PRACTICE: CC.6.NS.1

PART II DIRECTIONS:

1. WRITE WHAT THE DIVISION PROBLEM MEANS. (WRITE THE QUESTION.)
2. MODEL EACH PROBLEM USING THE RECTANGLES BELOW.
3. FIND THE QUOTIENT USING THE MODEL.

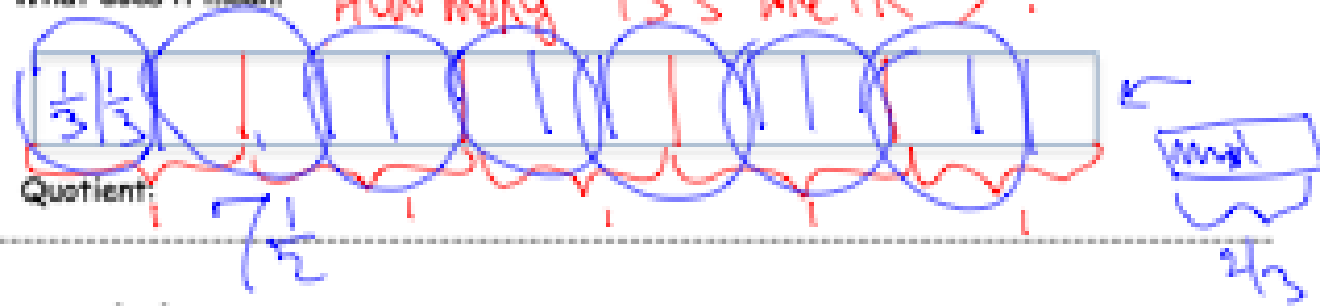
4. $4 \div \frac{3}{4}$

What does it mean? *How many $\frac{3}{4}$'s are in 4?*



5. $5 \div \frac{2}{3}$

What does it mean? *How many $\frac{2}{3}$'s are in 5?*



6. $2\frac{1}{2} \div \frac{1}{2}$

What does it mean? *How many halves are in $2\frac{1}{2}$?*

