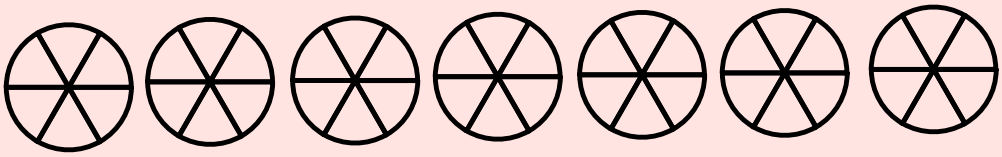
Section 3.5 - Dividing Whole #'s by Fractions

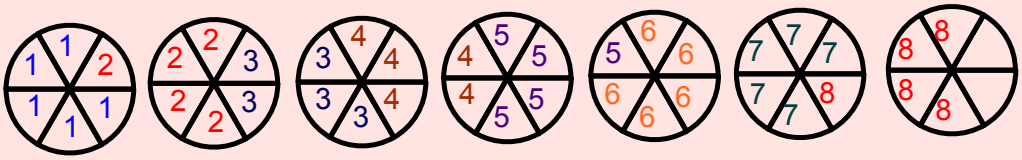
1. Fraction Circles

$7 \div \frac{5}{6}$ How many $\frac{5}{6}$ are in 7 wholes?

- Break 7 wholes into sixths



- Count groups of five-sixths

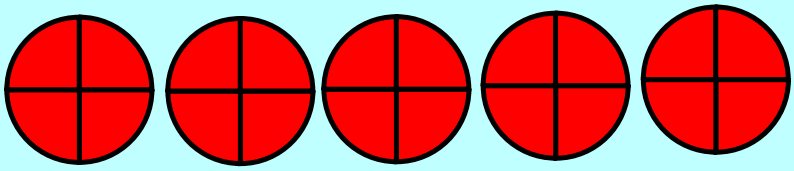


- Notice it takes 8 groups of five-sixths and two of the five pieces left, to make 7 wholes.

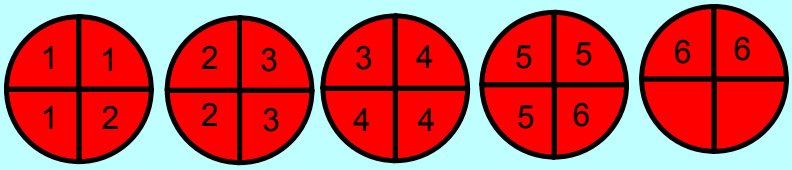
$7 \div \frac{5}{6} = 8\frac{2}{5}$

ex: $5 \div \frac{3}{4}$

- Break 5 wholes into quarters.



- Count groups of three-fourths.



- It takes 6 groups of three-quarters and two of the three pieces left to make 5 wholes.

$5 \div \frac{3}{4} = 6\frac{2}{3}$

Try these...

1. $4 \div \frac{2}{5}$

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

Pull

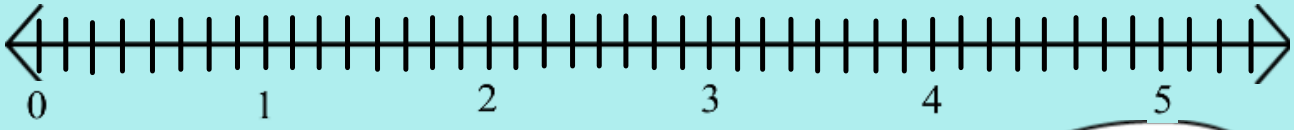
Pull

Number Lines

$5 \div \frac{3}{8}$

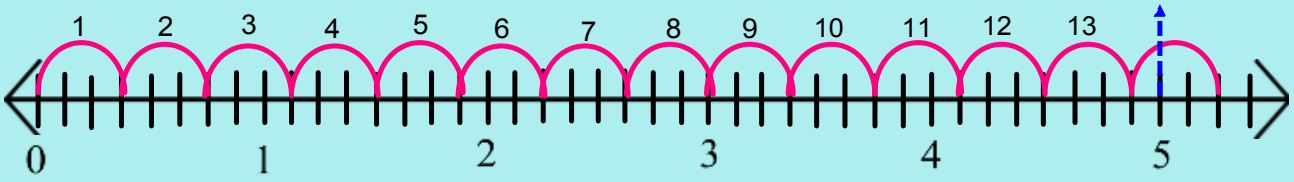
How many three-eighths are in 5 wholes?

Use a number line divided into eighths



Count jumps of three-eighths

need one of the 3 pieces to get to 5

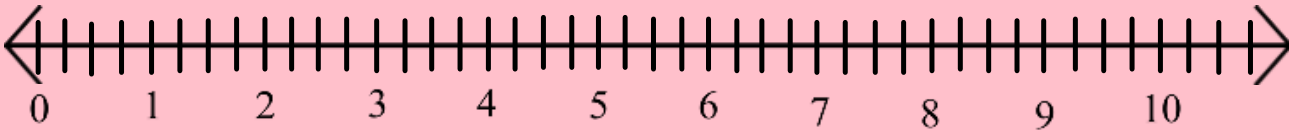


$5 \div \frac{3}{8} = 13\frac{1}{3}$

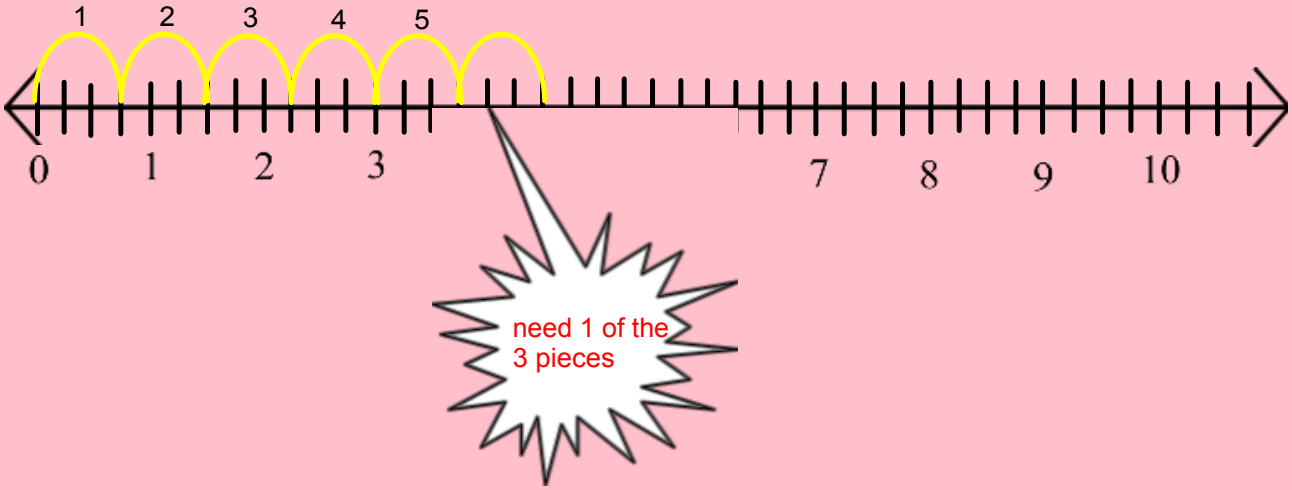
ex: $4 \div \frac{3}{4}$

How many three-quarters are there in four wholes?

Use a number line divided into fourths



Count jumps of three-fourths



$4 \div \frac{3}{4} = 5\frac{1}{4}$

Try these....

a) $5 \div \frac{4}{5}$

b) $3 \div \frac{2}{3}$

Pull

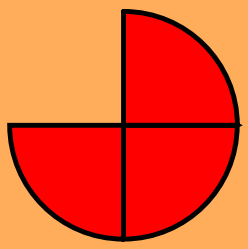
Pull

Dividing Fractions by Whole Numbers

1. Fraction Circles

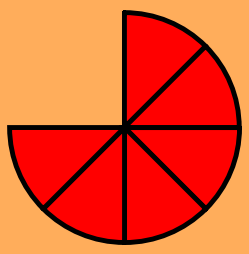
$\frac{3}{4} \div 2$ Divide three-fourths into 2 groups

Step 1



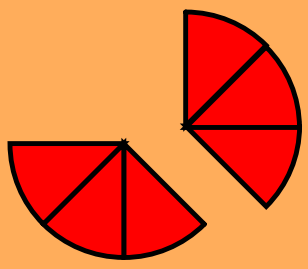
Start with three-fourths

Step 2



Cut each piece in half

Step 3



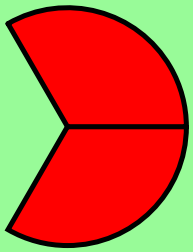
Break these pieces into 2 groups

** Each of the 2 groups has three-eighths...

$\frac{3}{4} \div 2 = \frac{3}{8}$

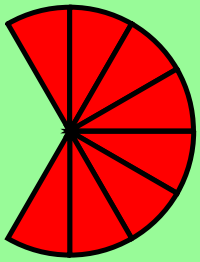
ex: $\frac{2}{3} \div 4$ Divide two-thirds into 4 groups

Step 1



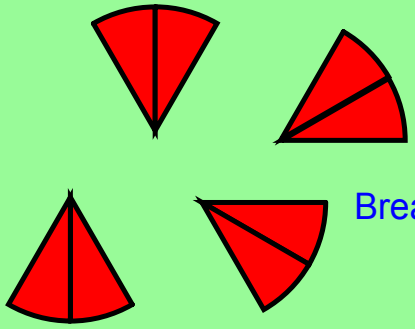
Start with two-thirds

Step 2



Cut each piece into fourths

Step 3



Break these into 4 groups

***Each of these 4 groups have two-twelvthes

$$\frac{2}{3} \div 4 = \frac{2}{12} = \frac{1}{6}$$

Try these...

a) $\frac{1}{2} \div 6$

Pull

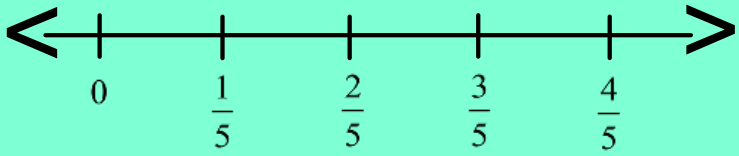
b) $\frac{4}{5} \div 2$

Pull

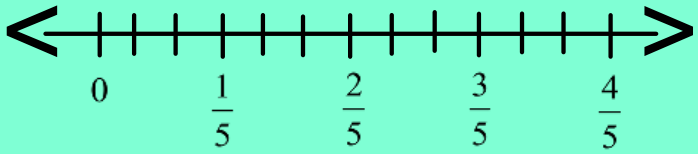
2. Number Lines

ex: $\frac{4}{5} \div 3$ Divide four-fifths into 3 groups

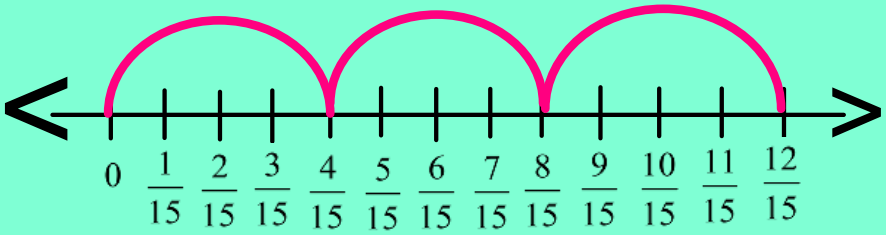
Step 1 Mark off four-fifths on a number line



Step 2 Divide this line up into groups of 3. (This means the line is marked off in fifteenths.



Step 3 Rewrite the scale and divide into 3 groups

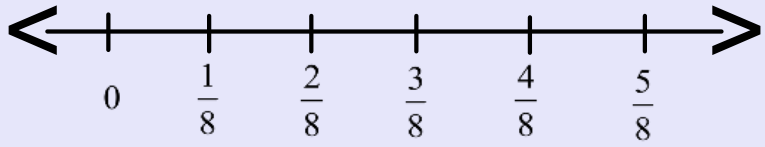


Since there are twelve-fifteenths, there will be four-fifteenths in each group.

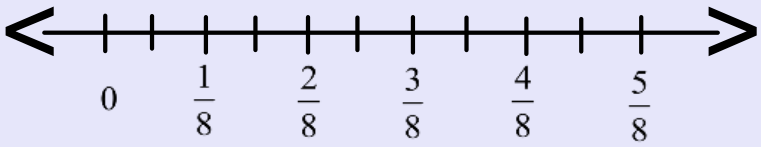
$\frac{4}{5} \div 3 = \frac{4}{15}$

ex: $\frac{5}{8} \div 2$

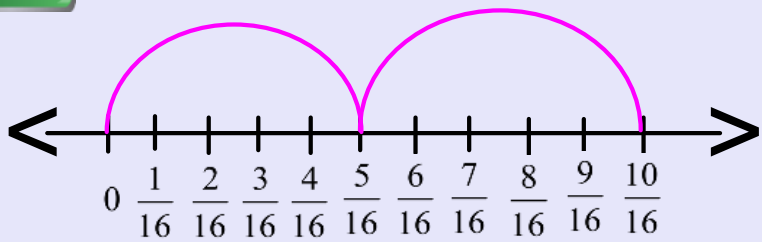
Step 1 Mark off five-eighths on a number line



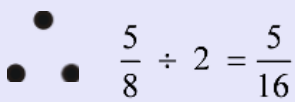
Step 2 Divide this line up into groups of two. (This means the line is marked off into sixteenths)



Step 3 Rewrite this scale and divide into 2 groups



Since there are ten-sixteenths, there will be five-sixteenths in each group



$\frac{5}{8} \div 2 = \frac{5}{16}$

Book Work...page 133, #'s 4 - 11

Work Book...pages 58 & 59