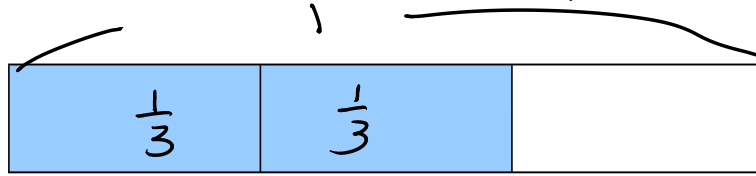


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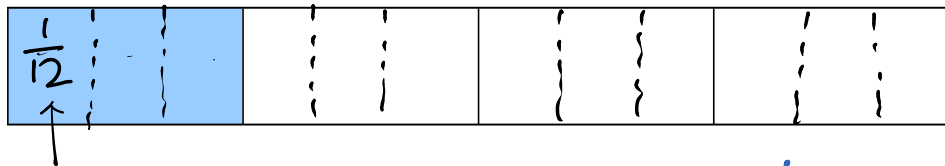
## 6.2 Notes: Dividing a Fraction and a Whole

Use the diagrams to model the division of a fraction by a whole number:

$$\frac{2}{3} \div 2 = \frac{1}{3}$$

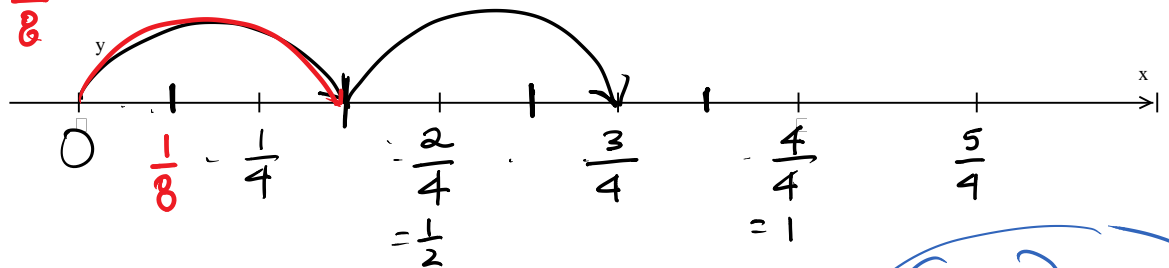


$$\frac{1}{4} \div 3 = \frac{1}{12}$$



Division can also be modeled with a number line diagram:

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



Division without a diagram:

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

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

$$\begin{array}{l} \$10 \div 2 = \$5 \\ \frac{1}{2} \text{ of } \$10 \\ \frac{1}{2} \times 10 = 5 \end{array} \quad \begin{array}{l} \frac{2}{1} \\ \downarrow \\ \frac{1}{2} \end{array}$$

Use a denominator that is the product of the whole # and denominator  
multiply

KCF  
 ↓ ↓ ↓  
 keep change flip

Divide the following:

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

$$\frac{7}{8} \div 3 = \frac{7}{8} \div \frac{3}{1} = \frac{7}{8} \times \frac{1}{3} = \frac{7}{24}$$

$$\frac{2}{5} \div 7 = \frac{2}{5} \div \frac{7}{1} = \frac{2}{5} \times \frac{1}{7} = \frac{2}{35}$$

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

Develop a shortcut that can be used for dividing a fraction by a whole.

K - keep  
 C - change  
 F - flip

1. Kevin can eat  $\frac{3}{4}$  of a pizza in 2 hours. How much pizza can he eat in 1 hour?

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

Kevin eats  $\frac{3}{8}$  of pizza in an hour.

2. Luke has  $\frac{2}{3}$  of a chocolate bar left, which he gives to 5 hungry friends to share.

If they share it equally, what fraction of the whole chocolate bar does each receive?

$$\frac{2}{3} \div 5 = \frac{2}{3} \times \frac{1}{5} = \frac{2}{15}$$

They each get  $\frac{2}{15}$  of the chocolate bar.