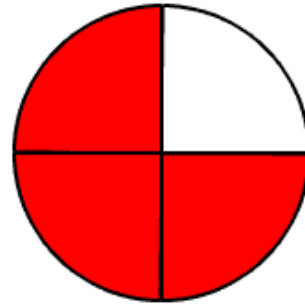


RENAME TO HIGHER TERMS

Introducing:

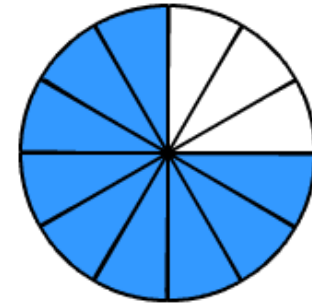
- higher terms
- identity

$$\frac{3}{4}$$



$$\frac{3}{4}$$

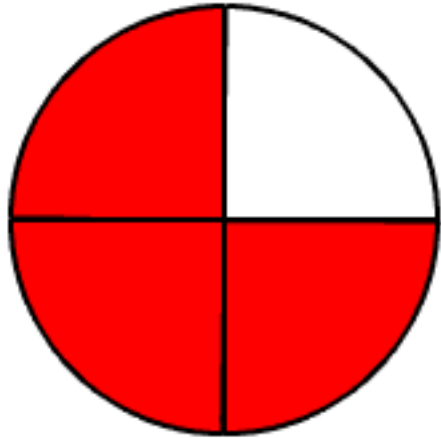
$$= \frac{9}{12}$$



$$\frac{9}{12}$$

Rename To Higher Terms 1

$$\frac{3}{4}$$

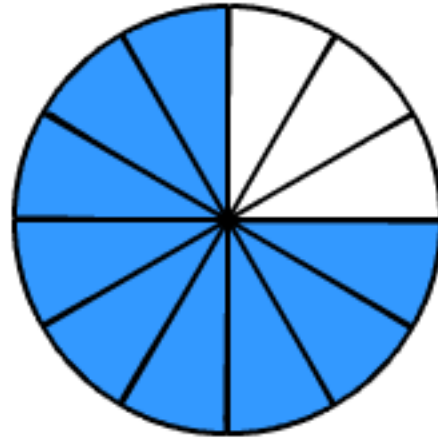


$$\frac{3}{4}$$

$$=$$

$$\frac{9}{12}$$

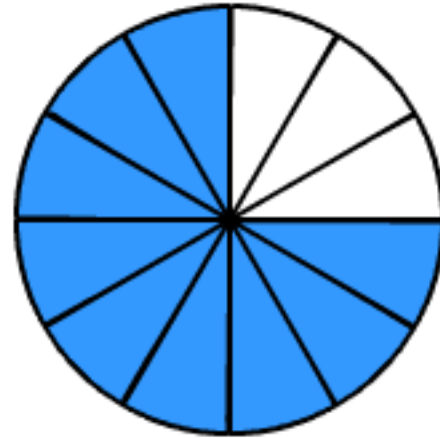
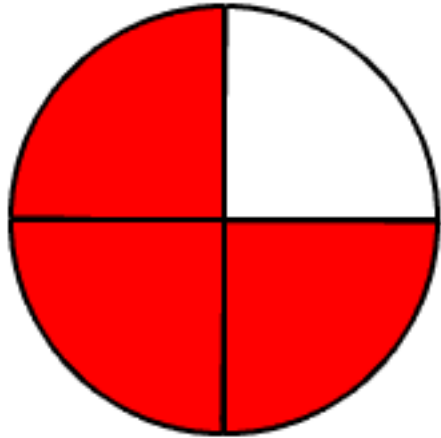
$$\frac{9}{12}$$



The picture shows two fractions that are the same size. The fraction on the right is in *higher terms* because the numerator and denominator are larger. The parts are smaller in the fraction on the right, but there are more parts.

Rename To Higher Terms 2

$$\frac{3}{4}$$



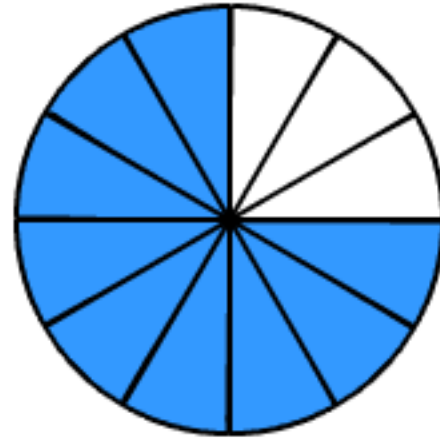
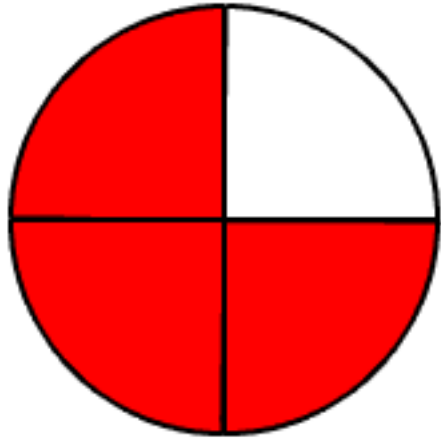
$$\frac{9}{12}$$

$$\frac{3}{4} \times \frac{3}{3} = \frac{9}{12}$$

To rename a fraction in *higher terms*, multiply both the numerator and denominator by the same number. The picture shows that the numerator 3 and the denominator 4 are both multiplied by 3, giving the fraction $\frac{9}{12}$.

Rename To Higher Terms 3

$$\frac{3}{4}$$

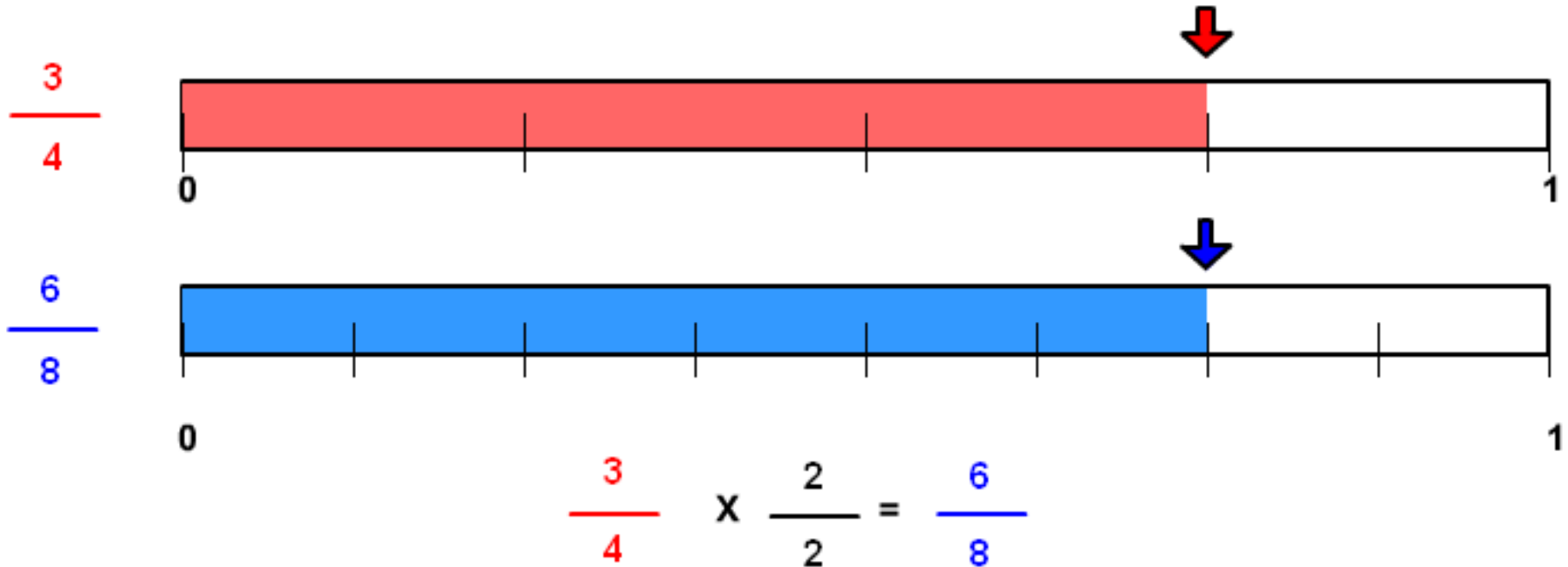


$$\frac{9}{12}$$

$$\frac{3}{4} \times \frac{3}{3} = \frac{9}{12}$$

The number $\frac{3}{3}$ is equal to 1. Multiplying by 1 or any form of 1 will not change the size of the number. One is the *identity* for multiplication.

Rename To Higher Terms 4



The top fraction shows $\frac{5}{8}$ and the lower fraction shows $\frac{10}{16}$. Notice how $\frac{5}{8}$ and $\frac{10}{16}$ are the same amounts on the number lines. Multiplying both the numerator and the denominator by 2 will give a numerator of 10 and a denominator of 16.

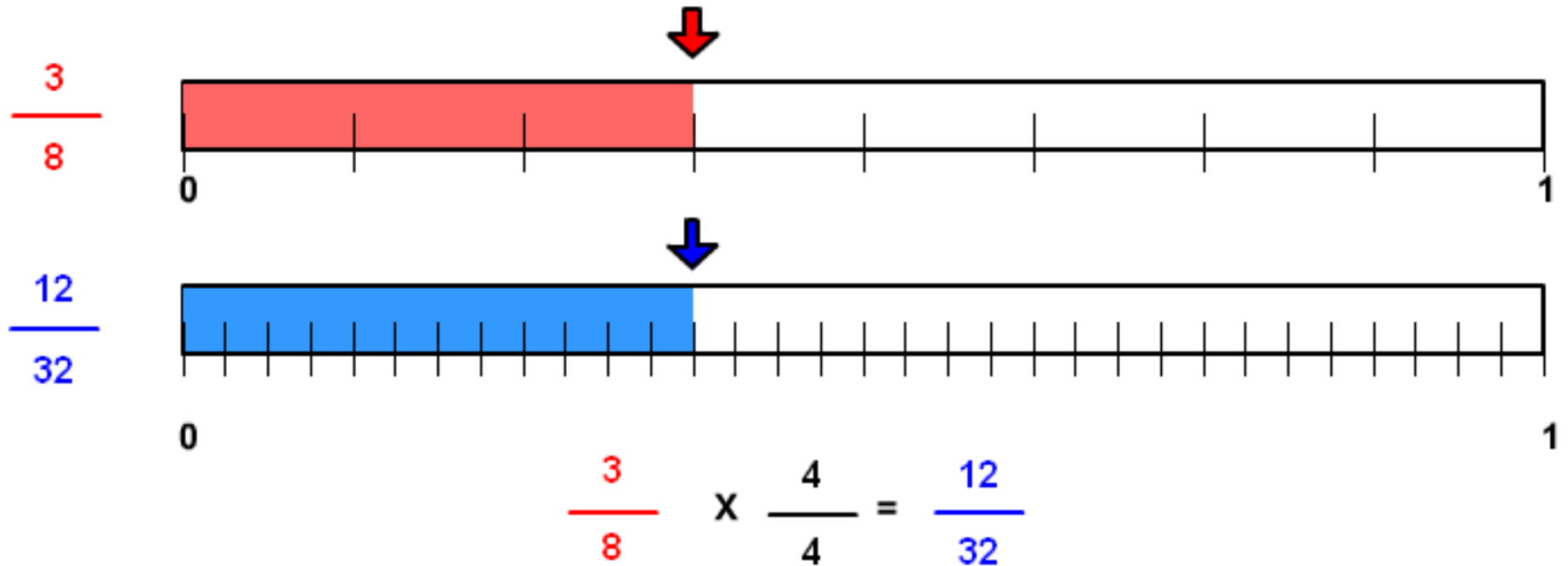
Rename To Higher Terms 5

$$\frac{3}{8} = \frac{\quad}{32}$$

Sometimes you are asked to write a fraction in higher terms without a picture of the fraction. Here, you are asked to write $\frac{3}{8}$ as 32's.

To do this, determine what the denominator 8 is multiplied by to get a denominator 32. In this case 4. Then multiply both terms by 4 to get a numerator of 24.

Rename To Higher Terms 6



This is a picture of the previous example. Notice that $\frac{3}{8}$ and $\frac{12}{32}$ have the same position on the number line. $\frac{3}{8}$ is renamed as $\frac{12}{32}$ by multiplying both terms by $\frac{4}{4}$.

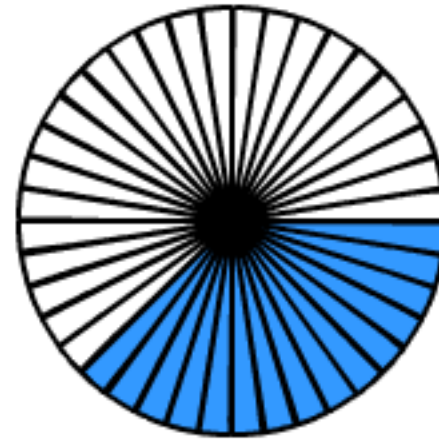
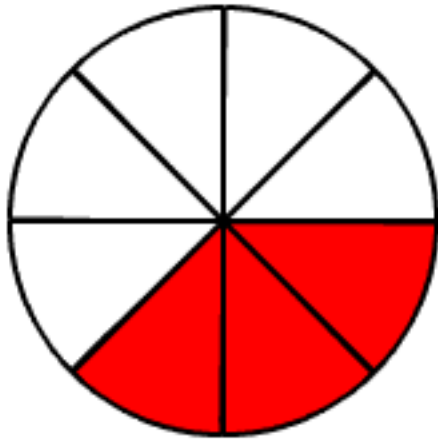
Rename To Higher Terms 7

$$\frac{3}{8} = \frac{\quad}{40}$$

Write $\frac{3}{8}$ with a denominator of 40.

Rename To Higher Terms 8

$$\frac{3}{8}$$



$$\frac{15}{40}$$

$$\frac{3}{8} \times \frac{5}{5} = \frac{15}{40}$$

This is a picture of the previous example. Both numerator and denominator were multiplied by 5. You can arrive at 5 by asking: “What number times the denominator 8 is equal to the denominator 40?”

Notice that $\frac{3}{8}$ and $\frac{15}{40}$ are the same size.