Rename to Lower Terms
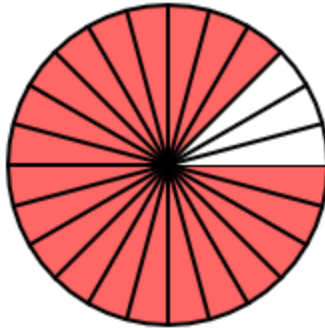
Introducing:
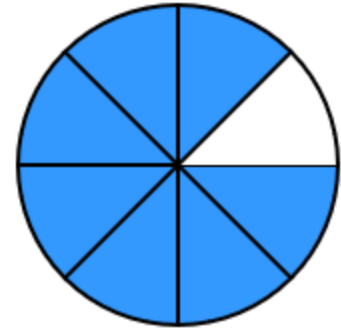
- lower terms
- lowest terms
- common factor
- greatest common factor

HIGHER TERMS   **TO**   **LOWERTERMS**
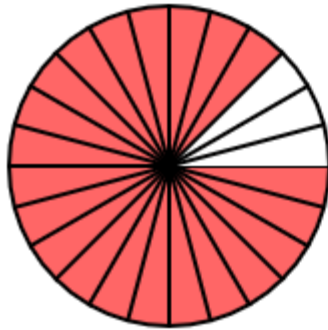
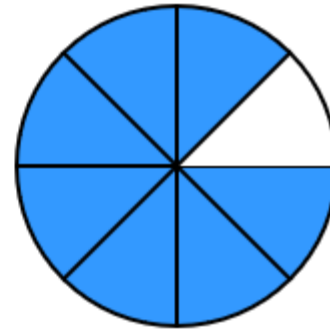$$\frac{21}{24} \qquad = \qquad \frac{7}{8}$$

Rename to Lower Terms 1

HIGHER TERMS   TO   LOWER TERMS

$$\frac{21}{24}$$ $$= \quad \frac{7}{8}$$
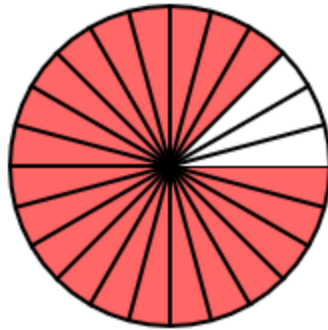
These fractions are the same size. The fraction on the right is in *lower terms* because both the numerator and denominator are smaller than the numerator and denominator of the fraction on the left.

Rename to Lower Terms 2

HIGHER TERMS   TO   LOWER TERMS

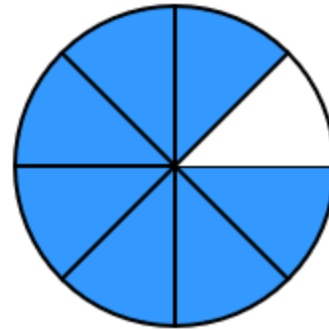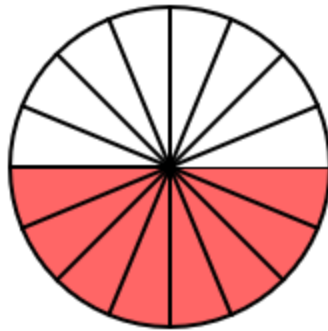$$\frac{21}{24} \div \frac{3}{3} = \frac{7}{8}$$

Notice that both the numerator and denominator in the fraction $\frac{21}{24}$ are divided by 3. This example shows that you are dividing the fraction $\frac{21}{24}$ by $\frac{3}{3}$, a form of 1.

Rename to Lower Terms 3

HIGHER TERMS   TO   LOWERTERMS
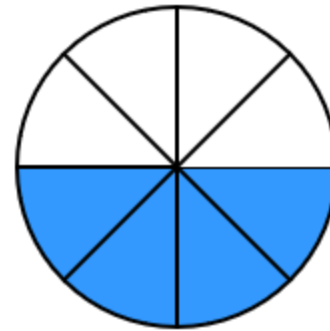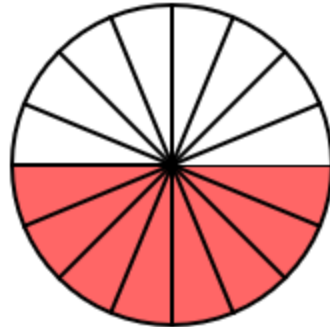
$$\frac{8}{16} \div \frac{2}{2} = \frac{4}{8}$$

This picture shows that 8 and 16 are both divided by 2. A number that divides evenly into other numbers is called a *common factor* of the numbers. Two(2) is a *common factor* of 8 and 16.

Rename to Lower Terms 4

HIGHER TERMS   TO   LOWER TERMS
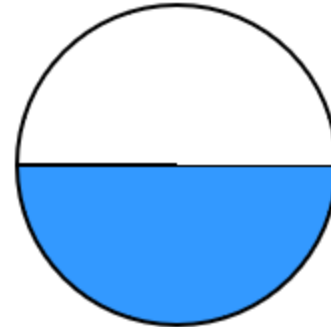
$$\frac{8}{16} \quad \div \quad \frac{8}{8} \quad = \quad \frac{1}{2}$$
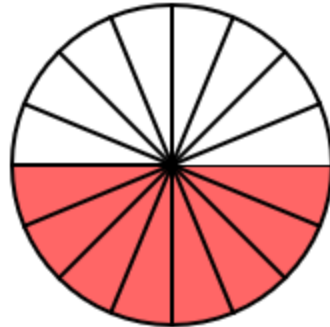
The numerator and denominator of $\frac{8}{16}$ can also be divided by 8. Eight is the largest number that divides evenly into 8 and 16. 2, 4, and 8 are *common factors* of 8 and 16, but 8 is the *greatest common factor* of 8 and 16.
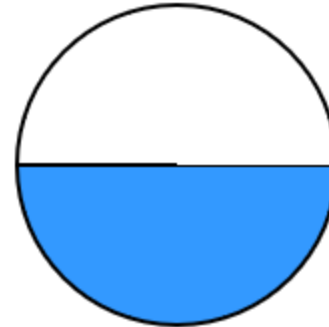
Rename to Lower Terms 5

HIGHER TERMS   TO   LOWER TERMS

$$\frac{8}{16} \div \frac{8}{8} = \frac{1}{2}$$
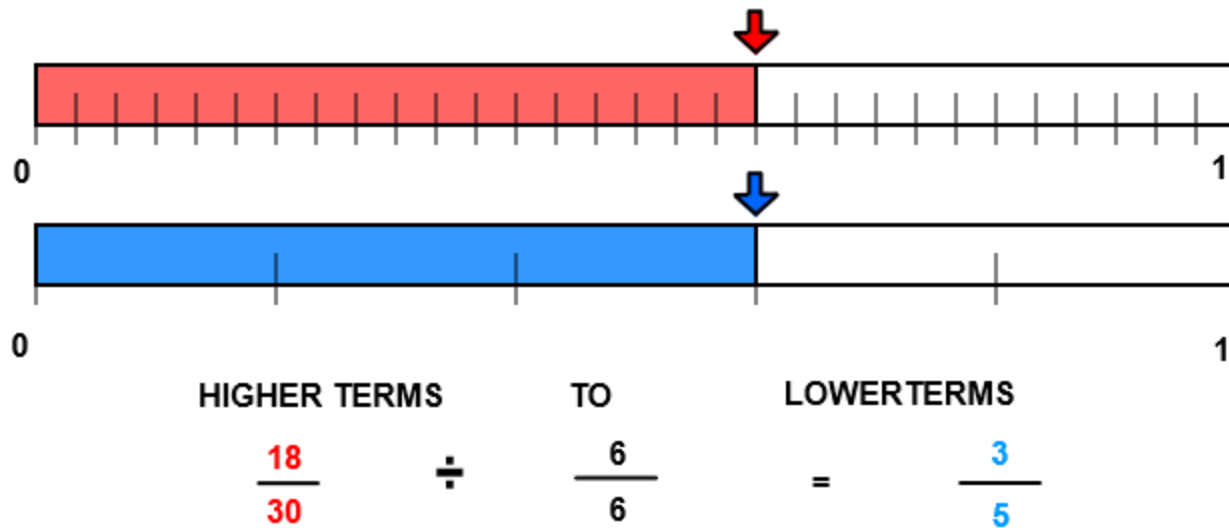
Dividing the numerator and denominator by the *greatest common factor* will rename the fraction in *lowest terms*. The fraction $\frac{1}{2}$ is in *lowest terms* because no whole number larger than 1 will divide evenly into 1 and 2.

Some texts call renaming in lowest terms "reducing" the fraction. But this is misleading. As you can see, the fraction $\frac{8}{16}$ is not reduced.

Rename to Lower Terms 6

HIGHER TERMS   **TO**   **LOWER TERMS**

$$\frac{18}{30} \div \frac{6}{6} = \frac{3}{5}$$

A common factor of 18 and 30 is 6.
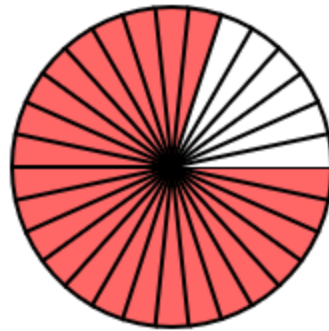Dividing both numerator and denominator by 6 is the same as dividing by 1.

This picture shows the fraction $^{18}/_{30}$. The *greatest common factor* of 18 and 30 is 6. Divide both 18 and 30 by the greatest common factor 6 will rename $^{18}/_{30}$ in *lowest terms*.

Rename to Lower Terms 7

$$\frac{24}{30} \quad = \quad ?$$

What is $^{24}/_{30}$ in lowest terms? Think of the largest number that will divide evenly into both 24 and 30. Then divide both the numerator and denominator by that number.
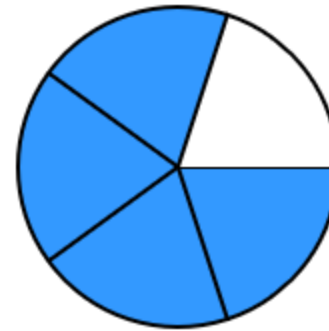
Rename to Lower Terms 8

HIGHER TERMS   TO   LOWER TERMS

$$\frac{24}{30} \div \frac{6}{6} = \frac{4}{5}$$

A common factor of 24 and 30 is 6.
Dividing both numerator and denominator by 6 is the same as dividing by 1.

$$^{24}/_{30} = {}^{4}/_{5}$$

Rename to Lower Terms 9

$$\frac{40}{48} \quad = \quad ?$$

What is $^{40}/_{48}$ in lowest terms? Think of the largest number that will divide evenly into both 40 and 48. Then divide both numerator and denominator by that number.

Rename to Lower Terms 10

HIGHER TERMS   TO   LOWER TERMS

$$\frac{40}{48} \div \frac{8}{8} = \frac{5}{6}$$

A common factor of 40 and 48 is 8.
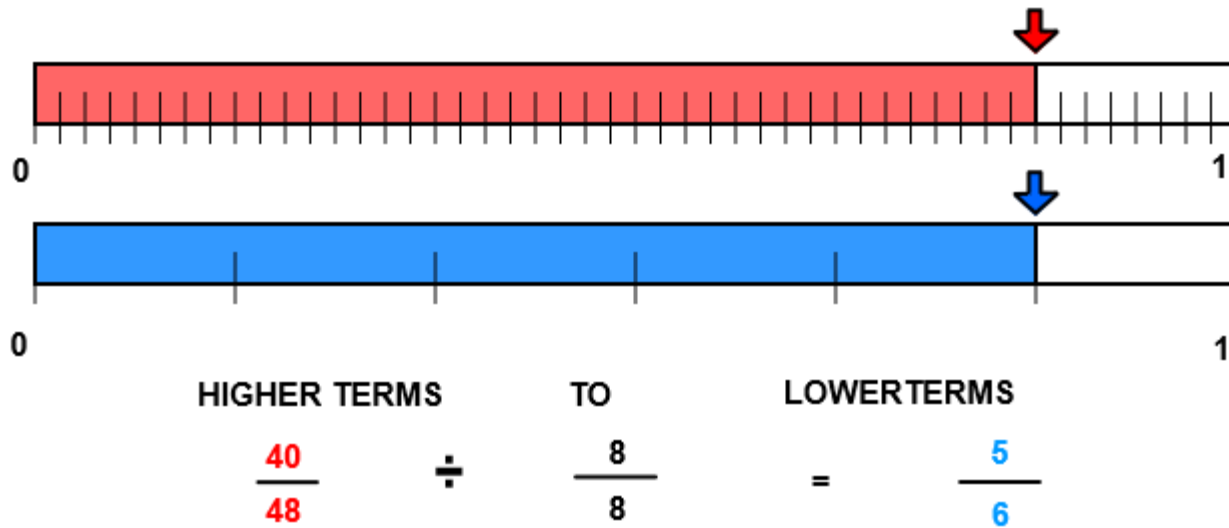Dividing both numerator and denominator by 8 is the same as dividing by 1.

$$40/48 = 5/6$$