Equivalent Fractions

Mr. Merrick · September 29, 2025

Two fractions are *equivalent* (the same) if they represent the same fraction of a whole. We can make an equivalent fraction by multiplying (or dividing) the numerator and denominator by the *same* number. This changes how many equal pieces the whole is cut into, but not how much is shaded.

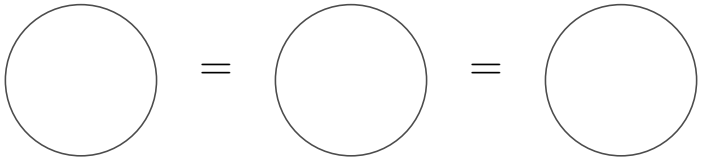
$$\frac{1}{2} \overset{\times 2}{=} \frac{2}{4}$$

$$\frac{6}{8} \overset{\div 2}{=} \frac{3}{4}$$

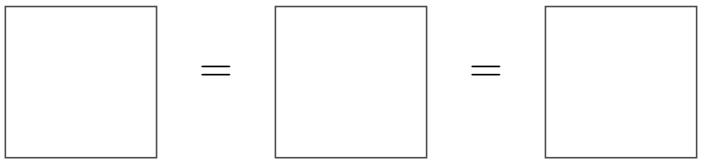
$$\frac{1}{2} = \frac{2}{4} = \frac{3}{6}$$

$$\frac{1}{3} = \frac{\square}{6} = \frac{3}{\square}$$

$$\frac{2}{5} = \frac{\square}{10} = \frac{6}{\square}$$

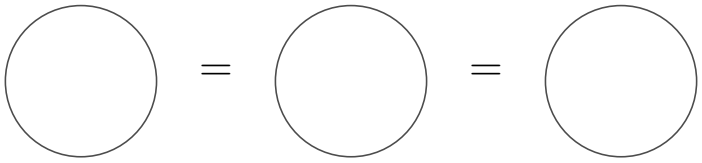


$$\frac{3}{4} = \frac{\square}{8} = \frac{\square}{12}$$

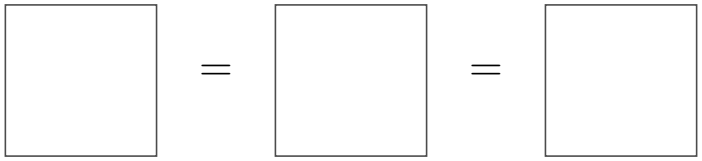


$$\frac{2}{3} = \frac{\square}{6} = \frac{6}{\square}$$

$$\frac{3}{5} = \frac{\square}{10} = \frac{9}{\square}$$

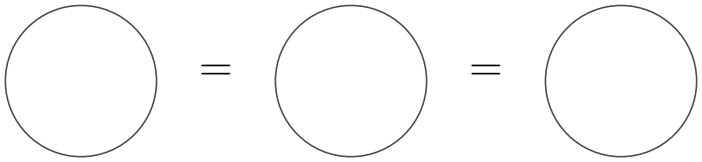


$$\frac{1}{2} = \frac{\square}{4} = \frac{3}{\square}$$

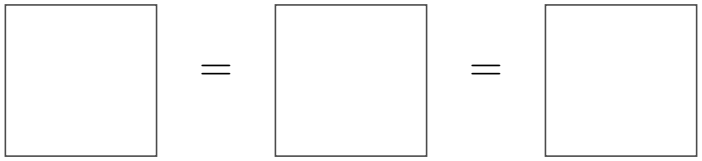


$$\frac{1}{4} = \frac{\square}{8} = \frac{3}{\square}$$

$$\frac{4}{5} = \frac{\square}{10} = \frac{12}{\square}$$

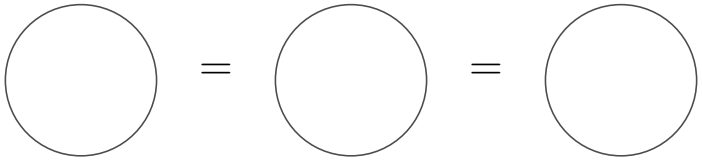


$$\frac{1}{3} = \frac{\square}{6} = \frac{3}{\square}$$

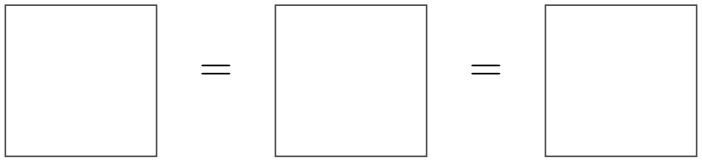


$$\frac{2}{5} = \frac{\square}{10} = \frac{6}{\square}$$

$$\frac{1}{4} = \frac{\square}{8} = \frac{3}{\square}$$

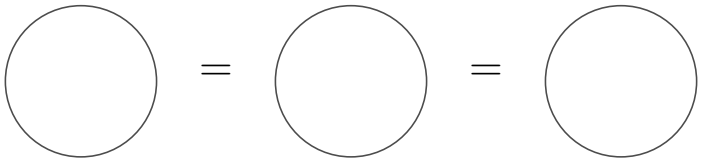


$$\frac{2}{5} = \frac{\square}{10} = \frac{6}{\square}$$

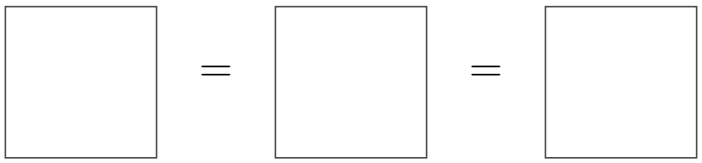


$$\frac{1}{6} = \frac{\square}{12} = \frac{3}{\square}$$

$$\frac{3}{4} = \frac{\square}{8} = \frac{9}{\square}$$

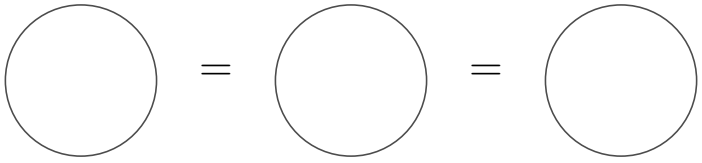


$$\frac{2}{3} = \frac{\square}{6} = \frac{6}{\square}$$



$$\frac{3}{5} = \frac{\square}{10} = \frac{9}{\square}$$

$$\frac{1}{2} = \frac{\square}{4} = \frac{3}{\square}$$



$$\frac{5}{6} = \frac{\square}{12} = \frac{15}{\square}$$

Reducing Fractions to Simplest Form

Example. Write $\frac{6}{9}$ in simplest form. Factor top and bottom into primes and cancel the common factors:

$$\frac{6}{9} = \frac{2 \times \cancel{3}}{3 \times \cancel{3}} = \frac{2}{3}.$$

This is the same as dividing both numerator and denominator by 3 (the GCF).

Reduce each fraction to an equivalent fraction in simplest form.

$\frac{35}{40} = \square$

$\frac{30}{48} = \square$

$\frac{2}{4} = \square$

$\frac{9}{54} = \square$

$\frac{5}{20} = \square$

$\frac{4}{32} = \square$

$\frac{7}{42} = \square$

$\frac{14}{16} = \square$

$\frac{20}{32} = \square$

$\frac{3}{12} = \square$

$\frac{9}{24} = \square$

$\frac{6}{9} = \square$

$\frac{4}{24} = \square$

$\frac{9}{18} = \square$

$\frac{10}{30} = \square$

$\frac{63}{72} = \square$

Reducing Fractions — More Practice

Reduce each fraction to an equivalent fraction in simplest form.

$\frac{28}{32} = \square$

$\frac{10}{12} = \square$

$\frac{18}{24} = \square$

$\frac{12}{20} = \square$

$\frac{8}{12} = \square$

$\frac{27}{45} = \square$

$\frac{50}{60} = \square$

$\frac{32}{48} = \square$

$\frac{45}{60} = \square$

$\frac{49}{63} = \square$

$\frac{7}{21} = \square$

$\frac{10}{80} = \square$

$\frac{16}{28} = \square$

$\frac{21}{63} = \square$

$\frac{24}{36} = \square$

$\frac{42}{56} = \square$

$\frac{22}{66} = \square$

$\frac{18}{30} = \square$

$\frac{12}{18} = \square$

$\frac{15}{35} = \square$