

Equivalent Fractions

Equivalent fractions are fractions that have the same value. You can tell if two fractions are equal by finding their **cross products**.

Example: $\frac{1}{2} = \frac{3}{6}$ You can tell that the fractions are equal because $\frac{1}{2} \begin{array}{l} \swarrow \searrow \\ \nwarrow \swarrow \end{array} \frac{3}{6}$ $1 \cdot 6 = 3 \cdot 2 \dots 6 = 6$

Because the cross products are equal in value, $\frac{1}{2} = \frac{3}{6}$

To find an equal fraction with a given numerator or denominator, you can use cross-products.

Consider $\frac{2}{3} \begin{array}{l} \swarrow \searrow \\ \nwarrow \swarrow \end{array} \frac{?}{9}$ $2 \cdot 9 = 3 \cdot ?$ $18 = 3 \text{ times what number?}$ $? = 6$

$$\frac{7}{7} = \frac{10}{14}$$

$$\frac{3}{4} = \frac{\quad}{28}$$

$$\frac{1}{5} = \frac{\quad}{45}$$

$$\frac{1}{5} = \frac{7}{\quad}$$

$$\frac{9}{9} = \frac{72}{81}$$

$$\frac{4}{10} = \frac{\quad}{20}$$

$$\frac{6}{6} = \frac{20}{30}$$

$$\frac{4}{5} = \frac{\quad}{20}$$

$$\frac{7}{5} = \frac{70}{80}$$

$$\frac{7}{7} = \frac{18}{42}$$

$$\frac{8}{\quad} = \frac{48}{54}$$

$$\frac{1}{\quad} = \frac{8}{64}$$

$$\frac{4}{\quad} = \frac{24}{36}$$

$$\frac{8}{8} = \frac{12}{48}$$

$$\frac{7}{7} = \frac{40}{56}$$

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$$\frac{5}{7} = \frac{10}{14}$$

$$\frac{3}{4} = \frac{21}{28}$$

$$\frac{1}{5} = \frac{9}{45}$$

$$\frac{1}{5} = \frac{7}{35}$$

$$\frac{8}{9} = \frac{72}{81}$$

$$\frac{4}{10} = \frac{8}{20}$$

$$\frac{4}{6} = \frac{20}{30}$$

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