

Introduction to Fractions

- A **fraction** is an expression representing a division operation.
- **Equivalent fractions** have the same value.
- A fraction can be simplified or reduced to its **lowest terms**.

$\frac{8}{3} \quad \frac{5}{7}$ <p style="text-align: center;"> numerator denominator </p>	<p>A fraction is an expression representing a division operation. The numerator, or number on top, is the dividend, while the denominator, or number on the bottom, is the divisor.</p>
$\frac{2}{3} \quad \frac{6}{9}$ <p style="text-align: center;"> $3 \cdot 6 = 18$ $2 \cdot 9 = 18$ </p>	<p>Equivalent fractions may have different numbers in the numerator and denominator but have the same value. To determine if two fractions are equivalent, compare their cross products. Multiply the numerator of one fraction with the denominator of the other. Repeat this process with the remaining numerator and denominator. If the two products are the same, then the fractions are equivalent.</p> <p>It is also possible to determine if two fractions are equivalent by reducing them to lowest terms. Equivalent fractions will be the same fraction when reduced to lowest terms.</p>
<p>equivalent fractions</p> $\frac{2}{3}$ $\frac{6}{9} = \frac{2 \cdot \cancel{3}}{3 \cdot \cancel{3}} = \frac{2}{3}$ $\frac{4}{6} = \frac{\cancel{2} \cdot 2}{\cancel{2} \cdot 3} = \frac{2}{3}$ $\frac{10}{12} = \frac{\cancel{2} \cdot 5}{\cancel{2} \cdot 2 \cdot 3} = \frac{5}{6}$	<p>Fractions can be simplified, or converted to their lowest terms. The simplified fraction is an equivalent fraction to the original. To simplify a fraction, factor the numerator and the denominator. Cancel any factors common to both the numerator and denominator. The product of the remaining factors in the numerator and denominator is the simplified fraction. You should always convert fractional answers to their lowest terms.</p> <p>The common factors can be canceled because they are just like multiplying the fraction by a factor of 1.</p> <p>You can identify equivalent fractions by reducing each of the fractions to its lowest terms.</p>