

Dividing Fractions with Fractions

Multiply the first fraction by the **reciprocal** of the second.

Example 1

Complete the following equation: $\frac{6}{7} \div \frac{3}{5} =$

Explanation

Step 1: Invert the fraction you are dividing by **the reciprocal**.

$$\frac{3}{5} \rightarrow \frac{5}{3}$$

Step 2: Change to multiplication. **Multiply the first fraction by the reciprocal.**

$$\frac{6}{7} \times \frac{5}{3} = \frac{6 \times 5}{7 \times 3} = \frac{30}{21}$$

Step 3: Write the answer in the **simplest form**.

$$\frac{\cancel{30}^{10}}{\cancel{21}_7} = \frac{7+3}{7} = 1\frac{3}{7}$$

Example 2

Compute: $(\frac{5}{12} - \frac{2}{15}) \div (\frac{1}{3} + \frac{5}{6}) =$

Explanation

$$(\frac{5}{12} - \frac{2}{15}) \div (\frac{1}{3} + \frac{5}{6}) = (\frac{25}{60} - \frac{8}{60}) \div (\frac{2}{6} + \frac{5}{6}) = \frac{17}{60} \div \frac{7}{6} = \frac{17}{60} \times \frac{\cancel{6}^1}{7} = \frac{17}{70}$$