Dividing Fractions by Fractions

You can divide a fraction by a fraction by multiplying by its reciprocal instead. Let's try it! Solve $\frac{1}{3} \div \frac{3}{5}$.

First, find the reciprocal of the divisor. You can do this by switching the numerator and denominator.

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

Next, change the division problem into a multiplication problem. Multiply by the reciprocal that you found above. Make sure your answer is in simplest form.

$$\frac{1}{3} \div \frac{3}{5} = \frac{1}{3} \times \frac{5}{3} = \frac{5}{9}$$

Try it yourself! Divide. Show your work and write your final answer in simplest form.

$\frac{2}{5} \div \frac{3}{4} =$	$\frac{2}{5} \times \frac{4}{3} = \frac{8}{15}$	$\frac{2}{7} \div \frac{1}{2} =$	$\frac{2}{7} \times \frac{2}{1} = \frac{4}{7}$
$\frac{1}{6} \div \frac{3}{8} =$	$\frac{1}{6} \times \frac{8}{3} = \frac{8}{18} = \frac{4}{9}$	$\frac{1}{12} \div \frac{4}{9} =$	$\frac{1}{12} \times \frac{9}{4} = \frac{9}{48} = \frac{3}{16}$
$\frac{4}{11} \div \frac{5}{7} =$	$\frac{4}{11} \times \frac{7}{5} = \frac{28}{55}$	$\frac{5}{8} \div \frac{7}{10} =$	$\frac{5}{8} \times \frac{10}{7} = \frac{50}{56} = \frac{25}{28}$
$\frac{5}{9} \div \frac{7}{12} =$	$\frac{5}{9} \times \frac{12}{7} = \frac{60}{63} = \frac{20}{21}$	$\frac{9}{14} \div \frac{5}{6} =$	$\frac{9}{14} \times \frac{6}{5} = \frac{54}{70} = \frac{27}{35}$
$\frac{11}{20} \div \frac{4}{5} =$	$\frac{11}{20} \times \frac{5}{4} = \frac{55}{80} = \frac{11}{16}$	$\frac{2}{3} \div \frac{13}{16} =$	$\frac{2}{3} \times \frac{16}{13} = \frac{32}{39}$