

Math 105 Skill Builder # F - 7
Dividing Fractions – No Simplification Required

To divide two fractions, multiply the first fraction by the reciprocal of the second fraction.

$$\frac{a}{b} \div \frac{c}{d} = \frac{a}{b} \cdot \frac{d}{c} = \frac{a \cdot d}{b \cdot c}$$

Reciprocal

For example,

$$\frac{3}{4} \div \frac{7}{9} = \frac{3}{4} \cdot \frac{9}{7} = \frac{27}{28} \quad \text{Multiply by reciprocal of } \frac{7}{9}.$$

Examples:

Dividing Fractions
$\frac{7}{9} \div \frac{2}{5} = \frac{7}{9} \cdot \frac{5}{2} = \frac{35}{18}$
$\frac{2}{5} \div \frac{1}{2} = \frac{2}{5} \cdot \frac{2}{1} = \frac{4}{5}$
$\frac{3}{25} \div \frac{4}{7} = \frac{3}{25} \cdot \frac{7}{4} = \frac{21}{100}$

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Perform the indicated operation:

$$1) \frac{13}{25} \div \frac{2}{3} =$$

$$2) \frac{7}{10} \div \frac{5}{9} =$$

$$3) \frac{5}{13} \div \frac{1}{8} =$$

$$4) \frac{1}{3} \div \frac{11}{20} =$$

$$5) \frac{7}{9} \div \frac{2}{5} =$$

$$6) \frac{4}{7} \div \frac{5}{13} =$$

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Answers:

1) $\frac{39}{50}$

2) $\frac{63}{50}$

3) $\frac{40}{13}$

4) $\frac{20}{33}$

5) $\frac{35}{18}$

6) $\frac{42}{35}$

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