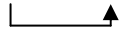


Math 105 Skill Builder # F - 8
Dividing Fractions – Simplification Required

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,

$$\begin{aligned} \frac{3}{4} \div \frac{7}{8} &= \frac{3}{4} \cdot \frac{8}{7} && \text{Multiply by reciprocal of } \frac{7}{8}. \\ &= \frac{3 \cdot 2}{1 \cdot 7} && \text{Divide 4 and 8 by 4.} \\ &= \frac{6}{7} \end{aligned}$$

Examples:

Dividing Fractions
$\frac{6}{15} \div \frac{7}{10} = \frac{6}{15} \cdot \frac{10}{7} = \frac{\cancel{2} \cdot 2 \cdot 2 \cdot \cancel{5}}{\cancel{5} \cdot \cancel{3} \cdot 7} = \frac{4}{7}$
$\frac{5}{8} \div \frac{3}{8} = \frac{5}{8} \cdot \frac{8}{3} = \frac{5 \cdot 1}{1 \cdot 3} = \frac{5}{3}$
$\frac{13}{84} \div \frac{3}{16} = \frac{13}{84} \cdot \frac{16}{3} = \frac{13 \cdot \cancel{4} \cdot 4}{\cancel{4} \cdot 21 \cdot 3} = \frac{52}{63}$

Math 105 Skill Builder # F - 8
Dividing Fractions – Simplification Required

Perform the indicated operation:

$$1) \frac{13}{25} \div \frac{17}{50} =$$

$$2) \frac{24}{29} \div \frac{6}{7} =$$

$$3) \frac{5}{13} \div \frac{9}{13} =$$

$$4) \frac{2}{33} \div \frac{13}{66} =$$

$$5) \frac{7}{18} \div \frac{5}{9} =$$

$$6) \frac{1}{14} \div \frac{5}{21} =$$

Math 105 Skill Builder # F - 8
Dividing Fractions – Simplification Required

Answers:

1) $\frac{26}{17}$

2) $\frac{28}{29}$

3) $\frac{5}{9}$

4) $\frac{4}{13}$

5) $\frac{7}{10}$

6) $\frac{3}{10}$

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