

**Math 105 Skill Builder #F - 3**  
**Multiplying Two Fractions – Simplification Required**

**Step 1** Cancel the common factors, between the numerators and the denominator.

**Step 2** Multiply the numerators together for the numerator of the product, and multiply the denominator together for the denominator for the product.

$$\frac{3}{4} \cdot \frac{5}{6} = \frac{3 \cdot 5}{4 \cdot 6} \quad \text{Divide 3 and 6 by 3.}$$

$$= \frac{1 \cdot 5}{4 \cdot 2} \quad \text{Multiply 1 and 5 for the numerator; 4 and 2 for denominator.}$$

$$= \frac{5}{8} \quad \text{Stop, since the numerator and the denominator have no factor in common other than 1.}$$

**Examples:**

Multiplying Two Fractions	
$\frac{7}{9} \cdot \frac{18}{5} = \frac{7 \cdot \cancel{2} \cdot 2}{\cancel{3} \cdot 5} = \frac{7 \cdot 2}{1 \cdot 5} = \frac{14}{5}$	
$\frac{15}{16} \cdot \frac{12}{21} = \frac{3 \cdot 5 \cdot \cancel{4} \cdot \cancel{3}}{4 \cdot \cancel{4} \cdot \cancel{3} \cdot 7} = \frac{3 \cdot 5}{4 \cdot 7} = \frac{15}{28}$	
$\frac{2}{5} \cdot \frac{1}{12} = \frac{\cancel{2} \cdot 1}{5 \cdot \cancel{2} \cdot 6} = \frac{1}{30}$	

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Perform the indicated operation:

$$1) \frac{3}{4} \cdot \frac{20}{6} =$$

$$2) \frac{21}{15} \cdot \frac{5}{14} =$$

$$3) \frac{3}{30} \cdot \frac{5}{12} =$$

$$4) \frac{12}{16} \cdot \frac{20}{25} =$$

$$5) \frac{3}{40} \cdot \frac{5}{6} =$$

$$6) \frac{8}{24} \cdot \frac{12}{32} =$$

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Answers:

1)  $\frac{5}{2}$

2)  $\frac{1}{2}$

3)  $\frac{1}{24}$

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

5)  $\frac{1}{16}$

6)  $\frac{1}{8}$

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