

Math 105 Skill Builder # F - 4

Multiplying a Whole Number and a Fraction – No Simplification Required

Don't forget that a whole number can be written as a fraction by writing the whole number over 1. For example,

$$5 = \frac{5}{1} \text{ and } 22 = \frac{22}{1}$$

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

$$\frac{5}{6} \cdot 7 = \frac{5}{6} \cdot \frac{7}{1} \quad \text{Write 7 as a fraction.}$$

$$= \frac{5 \cdot 7}{6 \cdot 1} \quad \text{Multiply 5 and 7 for the numerator; 6 and 1 for denominator.}$$

$$= \frac{35}{6} \quad \text{Stop, since the numerator and the denominator have no factor in common other than 1.}$$

Examples:

Multiplying a Whole Number and a Fraction
$\frac{7}{9} \cdot 11 = \frac{7}{9} \cdot \frac{11}{1} = \frac{7 \cdot 11}{9 \cdot 1} = \frac{77}{9}$
$\frac{1}{16} \cdot 5 = \frac{1}{16} \cdot \frac{5}{1} = \frac{1 \cdot 5}{16 \cdot 1} = \frac{5}{16}$
$\frac{2}{15} \cdot 8 = \frac{2}{15} \cdot \frac{8}{1} = \frac{2 \cdot 8}{15 \cdot 1} = \frac{16}{15}$

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Perform the indicated operation:

1) $\frac{3}{4} \cdot 9 =$

2) $\frac{2}{11} \cdot 6 =$

3) $\frac{1}{3} \cdot 2 =$

4) $\frac{11}{16} \cdot 7 =$

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

6) $\frac{2}{99} \cdot 13 =$

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Answers:

1) $\frac{27}{4}$

2) $\frac{12}{11}$

3) $\frac{2}{3}$

4) $\frac{77}{16}$

5) $\frac{9}{40}$

6) $\frac{26}{99}$

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