

Multiplying and Dividing Monomials

Remember, to multiply monomials, multiply their coefficients and variables separately.

To divide a monomial by an integer, divide the coefficient by the integer and write the variable or variables.

PRACTICE

Multiply or divide.

Do Rows 1-5.

1. $8(8n) = 8 \cdot 8n = 64n$	$\frac{36y}{9} = 4y$	$3a(-5b) = -15ab$	$\frac{-56n}{8} =$
2. $\frac{24ab}{8} =$	$36m(-\frac{1}{4}n) =$	$\frac{72r}{3} =$	$\frac{-64p}{16} =$
3. $4(-2t)(-5s) =$	$\frac{150x}{15} =$	$(-9j)(0.2k) =$	$(-12x)(-6) =$
4. $\frac{-4.5w}{5} =$	$(-7ab)(-6c)(-2) =$	$-16(\frac{1}{2}x) =$	$9pq(-r) =$
5. $5(0.13k) =$	$\frac{-84fg}{-12} =$	$\frac{2}{3}b(18) =$	$\frac{63cd}{7} =$
6. $\frac{33rs}{6} =$	$-4m(7h) =$	$\frac{-49g}{7} =$	$4(-12hy) =$
7. $\frac{-3i}{6}(42j) =$	$\frac{1.6f}{4}g =$	$\frac{-78z}{13} =$	$\frac{-2.8r}{7} =$
8. $\frac{-160t}{8} =$	$(-15w)(-\frac{ev}{3}) =$	$(-4v)(-14d) =$	$(-18k)(-mj) =$
9. $(-3b)(-2r)(-3p) =$	$21(-\frac{1}{3}t) =$	$-16dj(-5q) =$	$-15ng(-\frac{1}{5}d) =$
10. $\frac{70s}{14} =$	$\frac{1}{4}m(-16) =$	$\frac{69n}{3} =$	$\frac{3}{11}gt(22) =$

Simplifying Expressions

The simplest form of an expression has no like terms and no parentheses. Also, the terms are usually arranged in alphabetical order, with the constants last.

To simplify an expression means to write it in simplest form. Combine the constants and the like terms until the expression is in simplest form.

EXAMPLE 1

$$\begin{aligned} \text{Simplify: } & -2 + 8y + y - 3 \\ & = (8y + 1y) + [-2 + (-3)] \\ & = 9y + (-5) \\ & = 9y - 5 \end{aligned}$$

EXAMPLE 2

$$\begin{aligned} \text{Simplify: } & 6 + 7x - 8 \\ & = 7x + (6 + (-8)) \\ & = 7x + (-2) \\ & = 7x - 2 \end{aligned}$$

EXAMPLE 3

$$\begin{aligned} \text{Simplify: } & -4ab + 7c + ab \\ & = (-4ab + 1ab) + 7c \\ & = -3ab + 7c \end{aligned}$$

PRACTICE

Simplify.

Do ALL.

<i>a</i>	<i>b</i>	<i>c</i>
1. $5a + 4a - 2a =$	$8g + 3g - 7g =$	$4x - 12x + 7x =$
2. $6y - 4y + y =$	$3m - 5m + 4m =$	$12b - 8b - 4b =$
3. $9a - 6a + 3b =$	$7t + 4s + 5t =$	$6ab - 3ac - 8ac =$
4. $5r - 7r + 8m =$	$11 - 4k - 9k =$	$5x - 7 + 9 =$
5. $16xy - 18 + 7xy =$	$4f - 9f - 3f + 10 =$	$-8rs + 9rs + st =$
6. $-4g - 5 - 3g + 8 =$	$e + ef + 5ef =$	$3x - 7x - 9x =$
7. $19 + 15bc - 3bc + 2 =$	$31p - 54p - 82p =$	$-36 + 74r - 53 + r =$