

Simplify by multiplying terms or using the distributive property.

1. $4(3x)$

$$12x$$

2. $-5(2x)$

$$-10x$$

3. $(2)(3x)(4)$

$$24x$$

4. $-2(5x + 6)$

$$-10x - 12$$

5. $4(x - 6)$

$$4x - 24$$

6. $-1(4 - y)$

$$-4 + y$$

Simplify each algebraic expression by combining like terms.

7. $(5y) - 3x + 4 + y - 6 - 8x$

$$6y - 11x - 2$$

8. $(3.2k) - 4 + (5.9k) - 1$

$$9.1k - 5$$

Simplify each algebraic expression. Show all work step by step.

9. $2(3x) + 7 - 6x$

$$6x + 7 - 6x$$

$$7$$

10. $-3(3x + 2) + 2x + 12$

$$-9x - 6 + 2x + 12$$

$$-7x + 6$$

11. $6(x + y) + 3(x - 2y)$

$$6x + 6y + 3x - 6y$$

$$9x$$

12. $5 + 2(7a - 9)$

$$5 + 14a - 18$$

$$14a - 13$$

13. $\frac{3}{4}(3x + 6) + \frac{1}{4}(5x + 24)$

$$\frac{9}{4}x + \frac{18}{4} + \frac{5}{4}x + \frac{24}{4}$$

$$\frac{14}{4}x + \frac{42}{4}$$

$$\frac{7}{2}x + \frac{21}{2} \text{ or } 3\frac{1}{2}x + 10\frac{1}{2}$$

14. $(2n - 9)(-5)(-2.4n + 4)$

$$2n - 9 + 12n - 20$$

$$14n - 29$$

$$\begin{array}{r} 22.4 \\ \times 5 \\ \hline 112.0 \end{array}$$

15. Describe and correct the error.

$$4m - 3(2m - 5)$$

$$4m - 6m - 15$$

$$-2m - 15$$

The student thought $-3 \cdot -5$ was -15 but it is really 15 .

Correction: $4m - 3(2m - 5)$

$$4m - 6m + 15$$

$$-2m + 15$$