

## Multiplying Monomials and Polynomials (For use after Section 4-6)

### Multiply.

1.  $3x(x^2 - 4x - 1)$  \_\_\_\_\_

2.  $-5y^2(3 - y)$  \_\_\_\_\_

3.  $\frac{1}{2}a(4a^2 - 2a + 2)$  \_\_\_\_\_

4.  $x^2y(x^2y - xy + y^3)$  \_\_\_\_\_

### Simplify.

5.  $2(x + 3) - 3(x + 4)$  \_\_\_\_\_

6.  $3(x - 5) - 5(x - 3)$  \_\_\_\_\_

7.  $-[4x - 3(2 - x)]$  \_\_\_\_\_

8.  $2x^2(x - 5) - (3 - x)x^2$  \_\_\_\_\_

### Solve.

9.  $2 + 3(x + 4) = 8$  \_\_\_\_\_

10.  $6 = 2(x + 3) + 3(x + 4)$  \_\_\_\_\_

11.  $5 - 3(x - 1) = 2$  \_\_\_\_\_

12.  $\frac{3}{5}(15y - 5) = 2(3 - y)$  \_\_\_\_\_

### Multiply. Use the horizontal form.

13.  $(x - 6)(x - 7)$  \_\_\_\_\_

14.  $(x + 6)(x + 7)$  \_\_\_\_\_

15.  $(3t - 2)(t + 4)$  \_\_\_\_\_

16.  $(2c + 3)(2c - 5)$  \_\_\_\_\_

### Multiply. Use the vertical form.

17. 
$$\begin{array}{r} 3x - 5 \\ \times x + 7 \\ \hline \end{array}$$

18. 
$$\begin{array}{r} -x + 3 \\ \times 2x - 6 \\ \hline \end{array}$$

19. 
$$\begin{array}{r} a^2 - 4a - 2 \\ \times 2a + 1 \\ \hline \end{array}$$

20. 
$$\begin{array}{r} 5x^2 - 2x + 4 \\ \times 3x^2 + x \\ \hline \end{array}$$

21. 
$$\begin{array}{r} 5c - 8d \\ \times 4c + 2d \\ \hline \end{array}$$

22. 
$$\begin{array}{r} 3x^2 + 2xy - y^2 \\ \times 5x - 2y \\ \hline \end{array}$$

### Multiply using either the horizontal or the vertical form.

23.  $(a - b)(a^2 + ab + b^2)$  \_\_\_\_\_

24.  $(3n + 2)(5 - 4n + 3n^2)$  \_\_\_\_\_

### Solve.

25.  $(x + 1)(x - 1) = x^2 + x$  \_\_\_\_\_

26.  $(x - 1)(x - 3) = (x - 2)(x + 4)$  \_\_\_\_\_