

Algebra 1
Ch. 8 review
Quiz 8.8-8.9 today
Test Ch. 8 is Friday
Triangle puzzles?

8-5 Using the Distributive Property

Use the Distributive Property to factor each polynomial.

35. $12x + 24y$

37. $8xy - 16x^3y + 10y$

40. $24am - 9an + 40bm - 15bn$

Solve each equation. Check your solutions.

41. $x(3x - 6) = 0$

↓

$x = 0$

↓

$3x - 6 = 0$

$\frac{3x}{3} = \frac{6}{3}$

$x = 2$

42. $6x^2 = 12x$

$-12x \quad -12x$

$6x^2 - 12x = 0$

$6x(x - 2) = 0$

↓

$6x = 0$

$\frac{6x}{6} = \frac{0}{6}$
 $x = 0$

↓

$x - 2 = 0$

$x = 2$

$$43. x^2 = 3x$$

$$-3x \quad -3x$$

$$x^2 - 3x = 0$$

$$x(x-3) = 0$$

$$\begin{array}{l} \downarrow \qquad \downarrow \\ x=0 \qquad x-3=0 \\ \qquad \qquad +3 \quad +3 \\ \qquad \qquad x=3 \end{array}$$

Example 9

Factor $x^2 + 10x + 21$

Solve each equation. Check your solutions.

$$50 \mid x^2 + 5x - 50 = 0$$

$$(x+10)(x-5) = 0$$

$$\begin{array}{r} -50 \\ +10 \quad -5 \\ \hline 5 \end{array}$$

↓

$$x+10=0$$

$$-10 \quad -10$$

$$x = -10$$

↓

$$x-5=0$$

$$+5 \quad +5$$

$$x = 5$$

Example 10

Factor $12a^2 + 17a + 6$

$$\begin{array}{l} 72 \\ \hline 1 \ 72 \\ 2 \ 36 \\ 3 \ 24 \\ 8 \ 9 \end{array} \quad \left(\frac{12a^2}{4a} + \frac{8a}{4a} \right) + \left(\frac{9a}{3} + \frac{6}{3} \right)$$
$$4a(3a+2) + 3(3a+2)$$
$$(4a+3)(3a+2)$$

Example 11

Solve $x^2 - 4 = 12$ by factoring.

$$\begin{array}{r} -2 \quad -12 \\ x^2 - 4 = 12 \end{array}$$

$$x^2 - 16 = 0$$

$$(x+4)(x-4) = 0$$

$$x+4=0$$

$$x = -4$$

$$x-4=0$$

$$x = 4$$

Example 12

Solve $(x-9)^2 = 144$.

$$x-9 = \pm 12$$
$$+9 \quad +9$$

$$x = 9 \pm 12$$
$$x = 21$$
$$x = -3$$

8-1 Adding and Subtracting Polynomials

Write each polynomial in standard form.

11. $x + 2 + 3x^2$

12. $1 - x^4$

Find each sum or difference.

15. $(x^3 + 2) + (-3x^3 - 5)$

$$-2x^3 - 3$$

16. $a^2 + 5a - 3 \div (2a^2 - 4a + 3)$

$$\underline{1a^2 + 5a + 3} \quad \underline{-2a^2 + 4a + 3}$$

$$- a^2 + 9a + -6$$

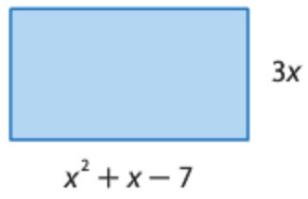
8-2 Multiplying a Polynomial by a Monomial

Solve each equation.

19. $x^2(x + 2) = x(x^2 + 2x + 1)$

21. $2(4w + w^2) - 6 = 2w(w - 4) + 10$

22. **GEOMETRY** Find the area of the rectangle.



8-3 Multiplying Polynomials

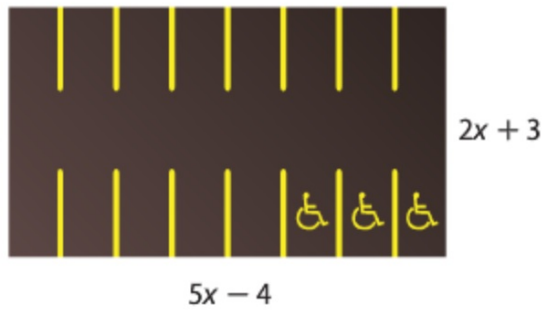
Find each product.

23. $(x - 3)(x + 7)$

24. $(3a - 2)(6a + 5)$

27. **PARKING LOT**

The parking lot shown is to be paved. What is the area to be paved?



31. $(2x - 3)(2x + 3)$

32. $(2r + 5t)^2$