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

8-5 Using the Distributive Property

Use the Distributive Property to factor each polynomial.

35. $12x + 24y$

$= 12(x + 2y)$

37. $\frac{8xy}{2y} - \frac{16x^3y}{2y} + \frac{10y}{2y}$

$2y\left(4x - 8x^3 + 5\right)$

$\frac{16xy}{2y} - \frac{32x^3y}{2y} + \frac{20y^2}{2y}$

$2y\left(\frac{8x}{2} - \frac{16x^3}{2} + 10\right)$

$(2y)(2)(4x - 8x^3 + 5)$

40 $(24am - 9an) + (40bm - 15bn)$

$3a(8m - 3n) + 5b(8m - 3n)$

$(8m - 3n)(3a + 5b)$

Solve each equation. Check your solutions.

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

$x = 0$ $\quad 3x - 6 = 0$

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

$x = 2$

42. $6x^2 = 12x$

$-12x \quad -12x$

$\frac{6x^2}{6x} - \frac{12x}{6x} = 0$

$6x(x - 2) = 0$

$\downarrow \qquad \downarrow$

$\frac{6x}{6} = \frac{0}{6} \qquad x - 2 = 0$

$x = 0 \qquad x = 2$

43. $x^2 = 3x$

$-3x \quad -3x$

$x^2 - 3x = 0$

$x(x-3) = 0$

$x = 0 \quad x - 3 = 0$

$x = 3$

$\frac{x^2}{x} = \frac{3x}{x}$

$x = 3$

Example 9

Factor $x^2 + 10x + 21$

$(x+3)(x+7)$

1 21
3 7

Solve each equation. Check your solutions.

50. $x^2 + 5x - 50 = 0$

-50, 10, -5, 5

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

$x+10=0$ $\quad x-5=0$

$x=-10$ $\quad x=5$

$(\quad)(\quad)=0$

Example 10

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

$(12a^2 + 8a) + (9a + 6)$

$4a(3a + 2) + 3(3a + 2)$

$(3a + 2)(4a + 3)$

72

1	72
2	36
3	24
4	18
6	12
8	9

Example 11

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

$-12 \quad -12$

$x^2 - 16 = 0$

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

$x+4=0 \quad -4 \quad -4$

$x = -4$

$+$

$x-4=0 \quad +4 \quad +4$

$x = 4$

$(x-9)(x-9)$ x^2-6x+9

Example 12

Solve $\sqrt{(x-9)^2}=\sqrt{144}$.

$x-9=\pm 12$

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

$+9 \quad +9 \quad +9 \quad +9$

$x=21 \quad x=-3$

8-1 Adding and Subtracting Polynomials

Write each polynomial in standard form.

11. $x + 2 + 3x^2$ **12.** $1 - x^4$

$3x^2 + x + 2$

$1x^1y^1z^1 + 1x^2y^2 + y^4z^1$

3 4 5

$1y^4 - 8y^2 - 9$

-9 -9 1 -8

$(y^2+1)(y^2-9)$

$1 \quad -9$

$3 \quad 3$

$(y^2+1)(y-3)(y+3)$

Find each sum or difference.

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

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

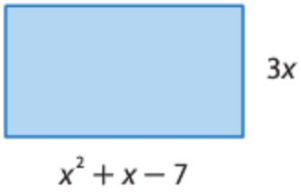
8-2 Multiplying a Polynomial by a Monomial

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