

Warm-Up:

Factor.

1) $14ab^2 - 28a^3b + 7ab$

$$7ab(2b - 4a^2 + 1)$$

2) What pairs of integers have a product of 54?

$$\begin{array}{l} 6, 9 \\ 3, 18 \\ 1, 54 \\ 2, 27 \end{array}$$

Section 8-3: Factoring Trinomials Part 1

Factoring a trinomial is the opposite of FOILing.

$$\begin{array}{l} (x+2)(x+3) \\ x^2 + 3x + 2x + 6 \\ x^2 + 5x + 6 \end{array}$$

Examples:

Factor.

1) $x^2 + 7x + 12$

$$(x+3)(x+4)$$

2) $x^2 - 12x + 27$

$$(x-3)(x-9)$$

Examples:

Factor.

3) $x^2 + 3x - 18$

$$(x-3)(x+6)$$

4) $x^2 - x - 20$

$$(x-5)(x+4)$$

$$x^2 + 8x + 7$$

$$(x+1)(x+7)$$

$$x^2 + 5x - 14$$

$$(x+7)(x-2)$$

$$2x^2 + 15x + 7$$

$$(2x+1)(x+7)$$

$$2x^2 + 14x + x + 7$$

Examples:

Solve.

$$5) x^2 + 2x - 15 = 0$$

$$(x+5)(x-3) = 0$$

$$x+5=0 \text{ or } x-3=0$$

$$x=-5 \text{ or } x=3$$

Examples:

6) Marion wants to build a new art studio that has three times the area of her old studio by increasing the length and width of the old studio by the same amount. What are the dimensions of her new studio?

$$(12+x)(10+x) = 3 \cdot 120$$
$$120 + 12x + 10x + x^2 = 360$$
$$x^2 + 22x + 120 = 360$$
$$\quad \quad \quad -360 \quad -360$$

$$x^2 + 22x - 240 = 0$$

$x = -30$ or $x = 8$

20 ft x 18 ft

$$(x + 30)(x - 8) = 0$$
$$x + 30 = 0 \text{ or } x - 8 = 0$$
$$x = -30 \text{ or } x = 8$$

Homework: pg. 438-439 #12-32 all, 36, 50

Quiz over Sections 8-1, 8-2 Next Class

Q3 Assessment Friday