

Factoring Trinomials

Section 10.7
Special Trinomials

10.7) Special Trinomials

1.) $x^2 + 6x + 9$

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

$$(x + 3)^2$$

2.) $x^2 + 8x + 16$

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

$$(x + 4)^2$$

Examples (cont.)

3.) $x^2 - 14x + 49$

$$(x-7)(x-7)$$

$$(x-7)^2$$

4.) $9x^2 - 30x + 25$

$$x^2 - 30x + 225$$

$$(x - \frac{15}{9})(x - \frac{15}{9})$$

$$(x - \frac{5}{3})^2$$

$$(3x-5)^2$$

Examples (cont.)

5.) $4x^2 + 12x - 9$

~~$(2x - 3)(2x + 3)$~~

~~$\underline{4x^2 + 12x - 9}$~~

No good

Not factorable

6.) $4x^2 - 12x + 9$

$(2x - 3)(2x - 3)$

$(2x - 3)^2$

Difference of Perfect Squares:

- $a^2 - b^2 = (a - b)(a + b)$

- Examples:

- > 1.) $x^2 - 9$ $x^2 + 0x - 9$ 2.) $x^2 - 16$

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

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

- > 3.) $x^2 - 144$

$$(x-12)(x+12)$$

- 4.) $x^2 + 9$

Not factorable

Examples:

5.) $4x^2 - 25$

$$(2x-5)(2x+5)$$

6.) $25x^2 - 81y^2$

$$(5x-9y)(5x+9y)$$

7.) $3x^2 - 108$

$$3(x^2 - 36)$$

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

Classwork

- ◉ Pg 313 # 1-12

Homework

⦿ 622 # 6-11, 18-38 even