

# FOIL

## Warm-up:

Simplify each polynomial.

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

$$x^2 - 25$$

$$(2p - 3)(2p + 3)$$

$$4p^2 - 9$$

$$(x + 8)(x + 8)$$

$$x^2 + 8x + 8x + 64$$

$$x^2 + 16x + 64$$

13)  $12ax^2 + 20bx^2 + 32cx$  14)  $3p^3q - 9pq^2 + 36pq$  15)  $5m^4n^2 - 3m^3n + 30n^3$

$$4x(3ax^2 + 5bx + 8c) \quad 3pq(p^2 - 3q + 12) \quad n(5m^4n^3 - 3m^3 + 30n^2)$$

$$3p^3q - 9pq^2 + 36pq$$

$3p^3q$   $9pq^2$   $36pq$

$$3pq(p^2 - 3q + 12)$$

## Algebra 1

### Factoring with Difference of Squares

Subtraction  $( )^2$

HW: Will be assigned at the end of class.

$$\begin{array}{r} 15 \\ 3 \overline{) 45} \end{array}$$

### Difference of Squares

Factor each polynomial.

$$x^2 - 9$$

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

$$c^2 - 64$$

$$(c+8)(c-8)$$

$$k^2 + 16$$

Prime

$$\begin{array}{l} x^2 - 9 \\ \cancel{x^2 - 9} \\ x^2 - 9 \\ \text{check} \end{array}$$

$$\sqrt{64} = 8$$

2nd  $x^2 \sqrt{64}$

$2k^2 + 18$   
"GCF"

### Difference of Squares

Factor each polynomial.

$36 - x^2$

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

$4 - c^2$

$(2+c)(2-c)$

$25 + k^2$

Prime

$(-c^2+4)$

$(-c+2)(c+2)$

### Difference of Squares

Factor each polynomial.

$4x^2 - 9$

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

$9c^2 - 25$

$(3c+5)(3c-5)$

$16k^2 + 49$

Prime

### Classwork

On page 4, complete the following:

○ #1, 3, 5, 6, 8, 10

1.  $(x - 7)(x + 7)$

3. Prime

5.  $(r - 9)(r + 9)$

6.  $(b - 3)(b + 3)$

8.  $(4 - h)(4 + h)$

10.  $(2p - 5)(2p + 5)$

### Homework

On page 4, complete the following:

○ #2, 4, 7, 9, 11, 12, 13