

9.2 Multiplying Polynomials  
9.3

$$2(x^2 + 3x - 4)$$

Distributive Property  $2x^2 + 6x - 8$

$$x(x^2 + 2x + 5)$$

$$x^3 + 2x^2 + 5x$$

$$-3x(4x^2 + 2x - 9)$$

$$-12x^3 - 6x^2 + 27x$$

(Binomial)(Binomial)

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

$$x^2 + 5x + 4x + 20$$

$$x^2 + 9x + 20$$

$$(x+3)(x+5)$$

$$x^2 + 5x + 3x + 15$$

$$x^2 + 8x + 15$$

$$(x+5)(x+3)$$

$$x^2 + 3x + 5x + 15$$

$$x^2 + 8x + 15$$

Degree 2  
Quadratic  
Trinomial  
3 terms

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

$$x^2 - 3x + 3x - 9$$

$$x^2 - 9$$

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

$$x^2 + 3x - 3x - 9$$

$$x^2 - 9$$

7·5
5·7

$$(x-2)(x-4)$$

FOIL  
 first outside  
 inside last

$$x^2 - 4x - 2x + 8$$

$$x^2 - 6x + 8$$

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

FOIL

$$x^2 + 2x + 5x + 10$$

$$x^2 + 7x + 10$$

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

FOIL

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

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

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

$$x^2 + 6x + 3x + 18$$

$$x^2 + 9x + 18$$

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

$$x^2 - 6x + 3x - 18$$

$$x^2 - 3x - 18$$

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

$$x^2 - 6x - 3x + 18$$

$$x^2 - 9x + 18$$

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

$$x^2 + 6x - 3x - 18$$

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