

# END: $ax^2 + bx + c$

Notes on Changing from Vertex or Intercept Form to Standard Form

Name \_\_\_\_\_

Date \_\_\_\_\_

From **Vertex Form to Standard Form:**

Multiply the Binomial [Expand then X]

- Distribute the Coefficient (if necessary)
- Combine Like Terms

FDIL or "Box" Method

Convert the following from Vertex Form to Standard Form.

1.  $f(x) = (x-1)^2 + 8$   
 $(x-1)(x-1)$   
 $x^2 - 2x + 1 + 8$

$$f(x) = x^2 - 2x + 9$$

From **Intercept Form to Standard Form:**

- Multiply the Factors
- Distribute the coefficient
- Combine Like Terms

2.  $y = 2(x+3)^2 - 5$   
 $(x+3)(x+3)$   
 $2(x^2 + 6x + 9)$   
 $2x^2 + 12x + 18 - 5$

$$y = 2x^2 + 12x + 13$$

3.  $y = -(x-4)^2 + 3$   
 $(x-4)(x-4)$   
 $(x^2 - 8x + 16)$   
 $-x^2 + 8x - 16 + 3$

$$y = -x^2 + 8x - 13$$

4.  $g(x) = 2(x+1)^2 - 2$

$$g(x) = 2x^2 + 4x$$

Convert the following from Intercept Form to Standard Form.

5.  $f(x) = (x-4)(x+6)$   
 $x^2 + 6x - 4x - 24$

$$f(x) = x^2 + 2x - 24$$

6.  $y = 3x(x-6)$

$$y = 3x^2 - 18x$$

7.  $g(x) = (2x-1)(3x+2)$   
 $6x^2 + 4x - 3x - 2$

$$g(x) = 6x^2 + x - 2$$

8.  $y = 4x(x+5)$

$$y = 4x^2 + 20x$$