

Quiz 2:8 – 13

A & B



Factor the polynomial:

$$y^2 - 64$$

$$(y - 8)(y + 8)$$

$$x^2 + 12x + 36$$

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

$$(x + 6)^2$$

$$36$$

$$6 \quad 6$$

$$12$$

$$81x^2 - 18x + 1$$

$$(9x - 1)(9x - 1)$$
$$(9x - 1)^2$$

$81x^2$	$-9x$
$-9x$	1

$$9x$$

$$-1$$

$$9x$$

$$-1$$

$$81x^2$$

$$-9x \quad -9x$$

$$-18x$$



$$9x^2 - 16y^2$$

$$a = 3x \quad b = 4y$$

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

$$(3x - 4y)(3x + 4y)$$

$$-2x^3 + 6x^2 + 108x$$

$$-2x(x^2 - 3x - 54)$$

$$-2x(x + 6)(x - 9)$$

$$-54$$

$$6 \quad -9$$

$$-3$$



$$y = x^2 - 5$$

$$0 = x^2 - 5$$

$$5 = x^2$$

$$2.24 = x$$

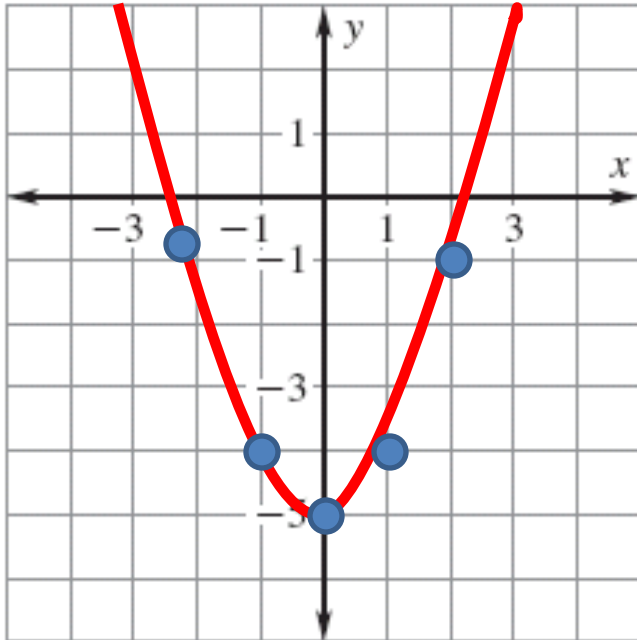
$$0$$

$$x = -\frac{b}{2a} = -\frac{0}{2(1)} = 0$$

$$y = (0)^2 - 5$$

$$y = 0 - 5 = -5$$

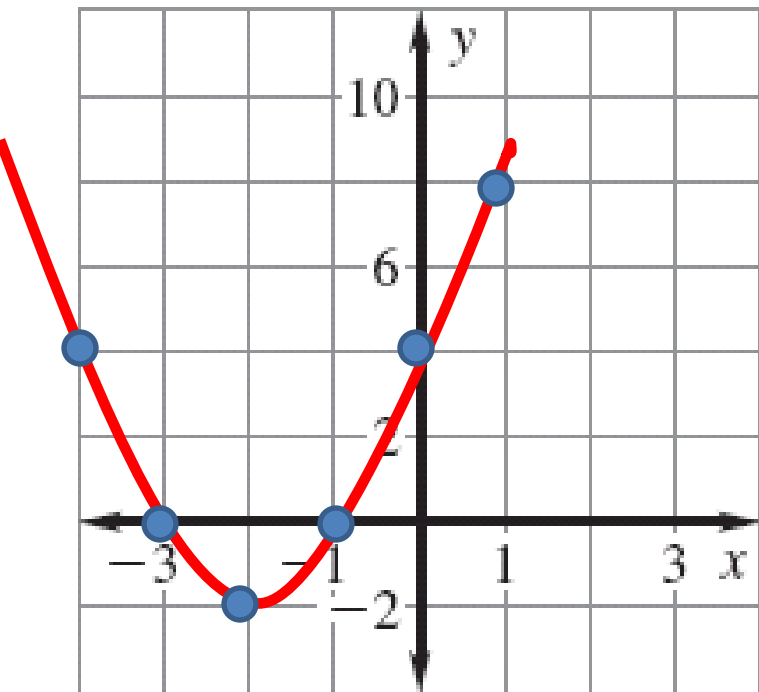
Vertex (0, -5)



x	y
-2	-1
-1	-4
1	-4
2	-1



$$y = x^2 + 4x + 3$$



1
3
4

3

$$(x + 1)(x + 3) = 0$$

$$x + 1 = 0 \quad x + 3 = 0$$

$$x = -1 \quad x = -3$$

$$x = -\frac{b}{2a} = -\frac{4}{2(1)} = -2$$

$$y = (-2)^2 + 4(-2) + 3$$

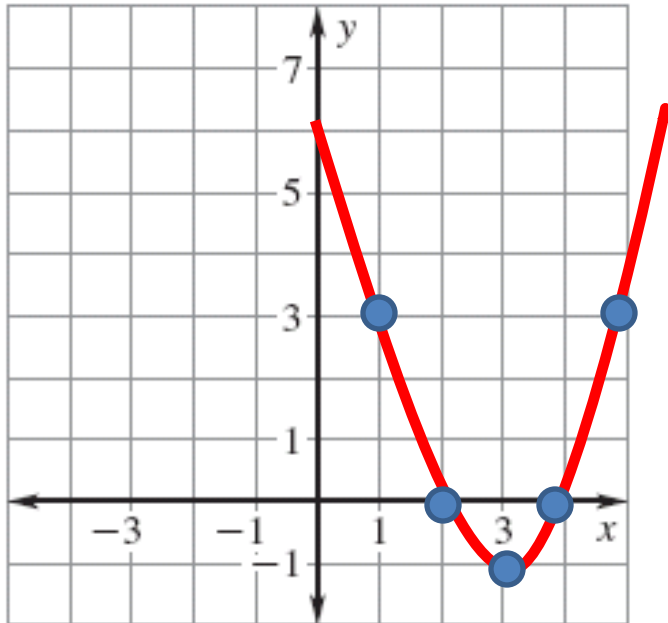
$$y = 4 - 8 + 3 = -1$$

Vertex (-2, -1)

x	y
-4	3
-3	0
-2	-1
-1	0
0	3
1	8



Solve the equation by
graphing:
 $y = x^2 - 6x + 8$



x	y
1	3
2	0
4	0
5	3

$$(x - 4)(x - 2) = 0$$

$$x - 4 = 0 \quad x - 2 = 0$$

$$x = 4 \quad x = 2$$

8

-2

-4

-6

$$x = -\frac{b}{2a} = -\frac{-6}{2(1)} = 3$$

$$y = (3)^2 - 6(3) + 8$$

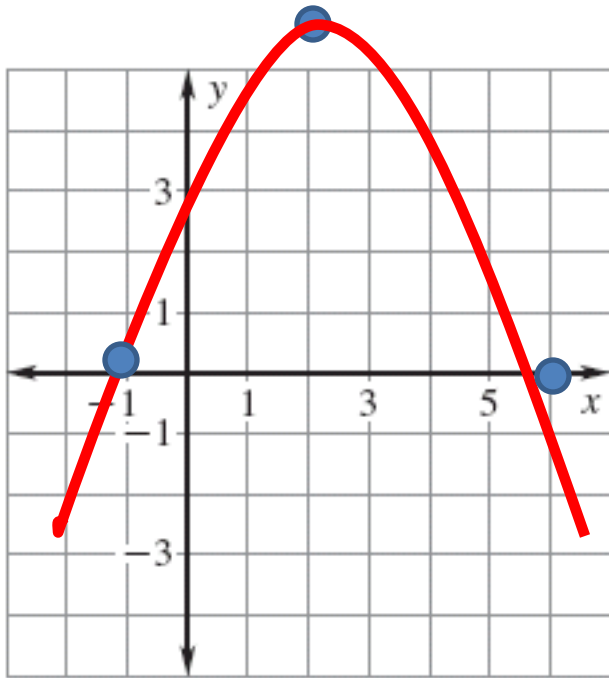
$$y = 9 - 18 + 8$$

$$y = -1$$

$$\text{Vertex} = (3, -1)$$



$$-x^2 + 5x = -6$$



$$-x^2 + 5x + 6 = 0$$

$$-(x^2 - 5x - 6) = 0$$

$$-(x + 1)(x - 6) = 0$$

$$x + 1 = 0 \quad x - 6 = 0$$

$$x = -1 \quad x = 6$$

$$\begin{array}{r} 6 \\ 1 \quad -6 \\ -5 \end{array}$$

$$x = -\frac{b}{2a} = -\frac{5}{2(-1)} = \frac{5}{2}$$

$$y = -\left(\frac{5}{2}\right)^2 + \frac{5}{1} \cdot \frac{5}{2} + 6$$

$$y = \frac{49}{4} = 12\frac{1}{4}$$

$$y = -\frac{25}{4} + \frac{25}{2} + 6$$

$$\text{Vertex} = \left(\frac{5}{2}, \frac{49}{4}\right)$$

$$y = -\frac{25}{4} + \frac{50}{4} + \frac{24}{4}$$



Solve the equation. Round your solutions to the nearest hundredth if necessary

$$3x^2 - 8 = 7$$

Add 8 to each side

$$3x^2 = 15$$

Divide each side by 3

$$x^2 = 5$$

Take the square root of each side

$$\sqrt{x^2} = \sqrt{5}$$

$$x = \pm 2.24$$

$$x = \{-2.24, 2.24\}$$

