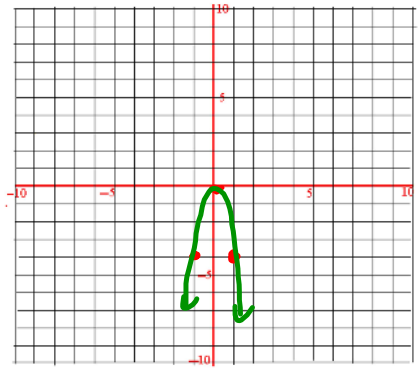
Name Key

Algebra II Practice Quiz 6.1-6.2

Answer the questions related to the quadratic equations. Use the vertex and 2 more points to graph the equations.

1. $y = -4x^2$



a = -4

b= 0

c= 0

Coefficient of x^2 : + - (-)

$x = -\frac{b}{2a} = \frac{0}{-8} = 0$

Parabola opens : up (down)

Vertex: min (max)

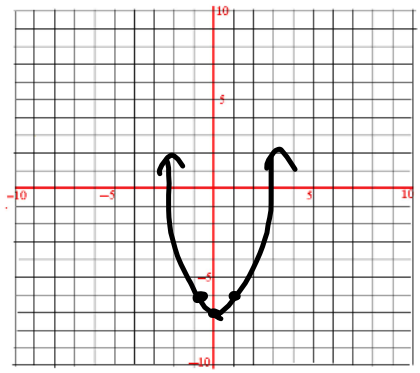
y- intercept: 0

Axis of Symmetry: x = 0

Vertex: (0,0)

Two more points (-1,-4) (1,-4)

2. $y = x^2 - 7$



a = 1

b= 0

c= -7

Coefficient of x^2 : (+) -

Parabola opens : (up) down

Vertex: (min) max

y- intercept: -7

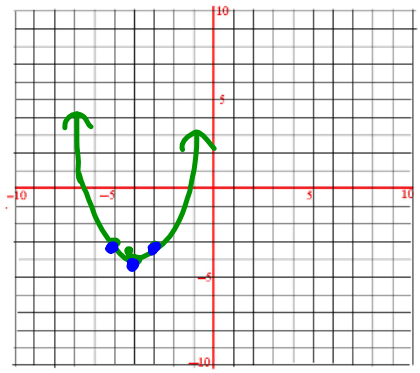
Axis of Symmetry: x = 0

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

Vertex: (0, -7)

Two more points (-1, -6) (1, -6)

3. $y = x^2 + 8x + 12$



a = 1

b= 8

c= 12

Coefficient of x^2 : (+) -

Parabola opens : (up) down

Vertex: (min) max

y- intercept: 12

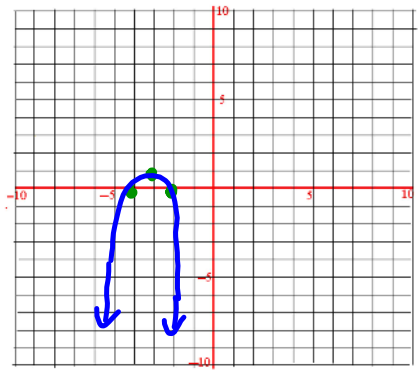
Axis of Symmetry: x = -4

$x = \frac{-b}{2a} = \frac{-8}{2} = -4$

Vertex: (-4, -4)

Two more points (-5, -3) (-3, -3)

4. $y = -x^2 - 6x - 8$



a = -1

b= -6

c= -8

Coefficient of x^2 : + -

Parabola opens : up down

Vertex: min max

y- intercept: -8

Axis of Symmetry: x = -3

$\rightarrow x = -\frac{b}{2a} = \frac{6}{-2} = -3$

Vertex: (-3, 1)

Two more points (-4, 0) (-2, 0)

Solve each equation by graphing. Use your calculator.

5. $x^2 - 8x + 7 = 0$ 1, 7

6. $-x^2 + 9x - 14 = 0$ 2, 7

7. $3x^2 + 6x + 5 = 0$ $\emptyset$

8. $3x^2 = 15x$ 0, 5