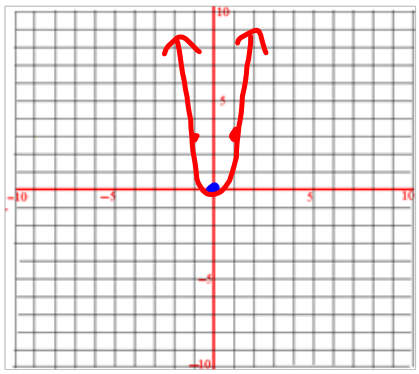
1. $y = 3x^2$

$y = ax^2 + bx + c$



a = 3

b= 0

c= 0

Coefficient of x^2: (+) -

Parabola opens : (up) down

Vertex: (min) max

y- intercept: 0

Axis of Symmetry: x = 0

Vertex: (0,0)

Two more points (-1, 3) (1, 3)

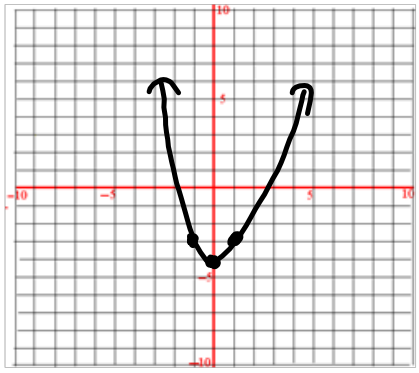
$x = -\frac{b}{2a}$

$= \frac{0}{2(3)}$

$= 0$

2. $y = x^2 - 4$

$y = ax^2 + bx + c$



a = 1

b= 0

c= -4

Coefficient of x^2: (+) -

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

Parabola opens : (up) down

Vertex: (min) max

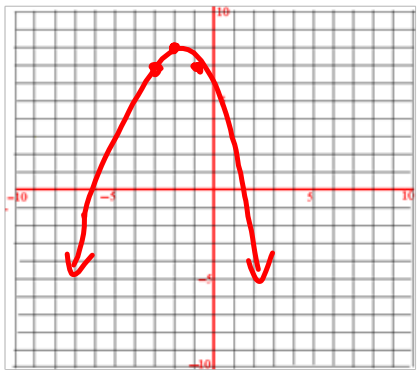
y- intercept: -4

Axis of Symmetry: x = 0

Vertex: (0, -4)

Two more points (1, -3) (-1, -3)

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



a = -1

b= -4

c= 4

Coefficient of x^2: + (-)

Parabola opens : up (down)

Vertex: min (max)

y- intercept: 4

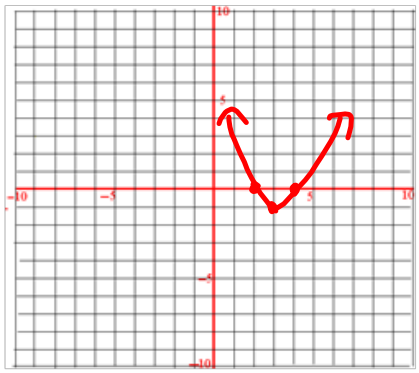
Axis of Symmetry: x = -2

Vertex: (-2, 8)

Two more points (-3, 7) (-1, 7)

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

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



a = 1

b= -6

c= 8

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

Coefficient of x^2: (+) -

Parabola opens : (up) down

Vertex: (min) max

y- intercept: 8

Axis of Symmetry: x = 3

Vertex: (3 , -1)

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