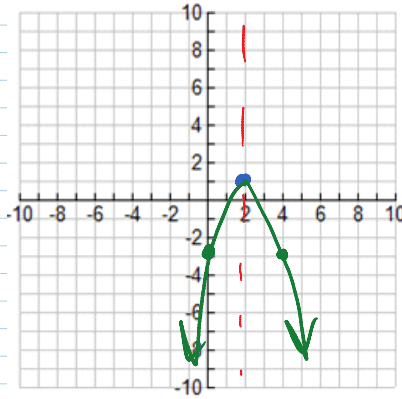


- 1) Sketch a graph of:  $y = -(x-2)^2 + 1$   
(show at least 3 points including the vertex)



$$(2, 1)$$

$$y = -(0-2)^2 + 1 \quad (0, -3)$$

$$y = -(-2)^2 + 1$$

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

- 2) Convert the following quadratic equation to vertex form by completing the square.

$$y = (2x^2 + 4x) - 1$$

$$y = 2(x^2 + 2x) - 1$$

$$\frac{2}{2} = 1^2 = \underline{1}$$

$$y + 2 = 2(x^2 + 2x + 1) - 1$$

$$y + 2 = 2(x+1)^2 - 1$$

$$y = 2(x+1)^2 - 3$$

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

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

$$y = 2(-1)^2 + 4(-1) - 1$$

$$y = 2(1) - 4 - 1$$

$$y = 2 - 4 - 1 = -3$$

$$(-1, -3)$$