

$$f(0) = \frac{1}{2}(-4)(2) = -4$$

$$f(1) = \frac{1}{2}(1-4)(1+2) = \frac{-9}{2} = -4.5$$

Quadratics Quiz: Write EVERYTHING about the parabola

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Record your answers below; it is optional to show work on a scrap piece of paper. Partial credit will be given.

When given the equation in factored form

2) a) Graph $y = \frac{1}{2}(x-4)(x+2)$ (On your graph, label the axis, scale, 5 points & the AOS). (1, f(1))

The zeros of this equation are $x=4, x=-2$. (4,0)

b) Vertex is $(1, -\frac{9}{2})$.

The equation of the Axis of symmetry is $x = \frac{4+(-2)}{2} = 1$ vertex

c) y-int is $(0, -4)$.

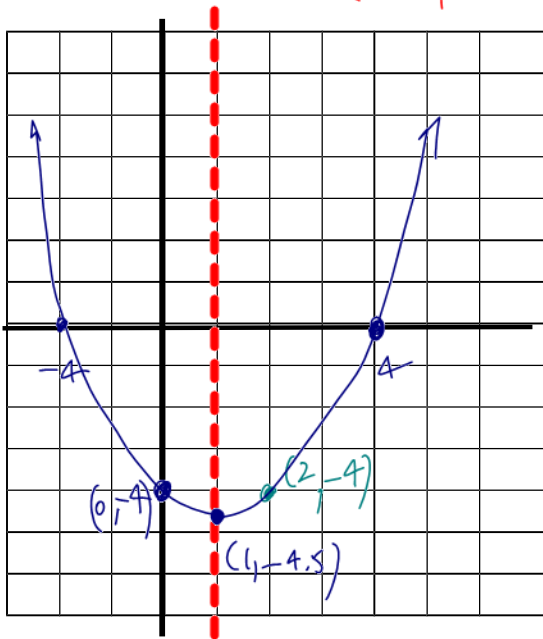
x-int(s) are: $(4, 0)$ and $(-2, 0)$, if applicable. "zeros"

d) This parabola opens up. a = +1/2 The vertex is a min contains (max/min) value.

e) List the transformations:

vertical stretch = $\frac{1}{2}$
vertical shift: down $-\frac{9}{2}$

horizontal shift: right 1



f) Re-write $y = \frac{1}{2}(x-4)(x+2)$ in standard form

$$\begin{aligned} &= \frac{1}{2}(x^2 + 2x - 4x - 8) \\ &= \frac{1}{2}(x^2 - 2x - 8) \\ &= \frac{1}{2}x^2 - x - 4 \end{aligned}$$

g) Write the three forms of the equation, in their proper form.

Standard form is: $y = \frac{1}{2}x^2 - x - 4$

Vertex form is: $y = \frac{1}{2}(x-1)^2 - \frac{9}{2}$

Factored (zeros) form is: $y = \frac{1}{2}(x-4)(x+2)$

$$y = ax^2 + bx + c$$

$$y = a(x-h)^2 + k$$

$$y = a(x-r)(x-s)$$