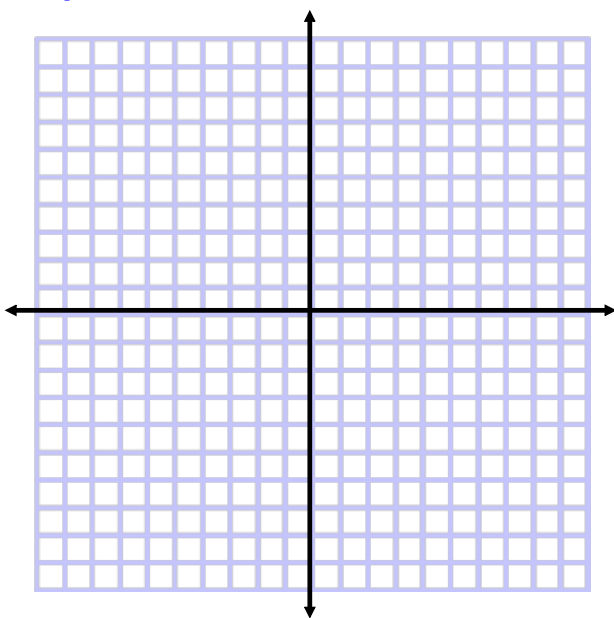


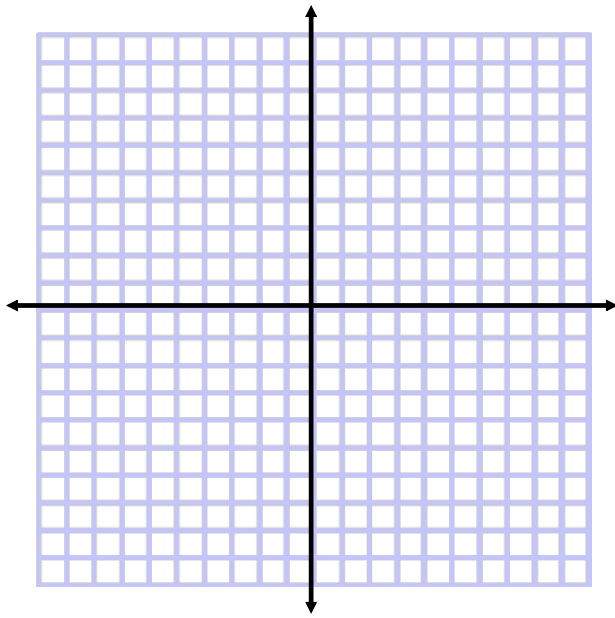
Bell Work

Graph the following quadratic equations:

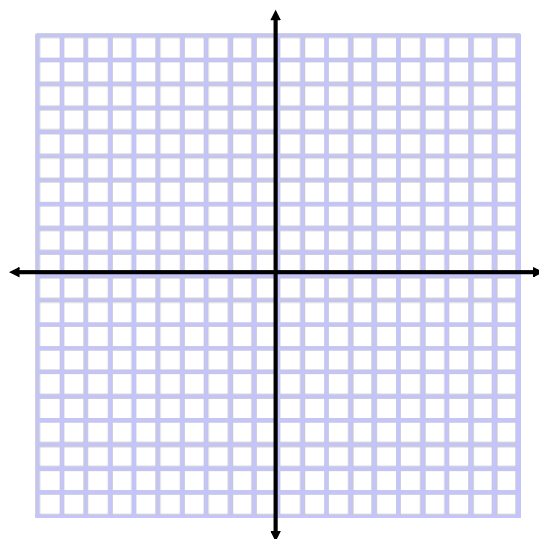
$$y = x^2 + 4x + 3$$



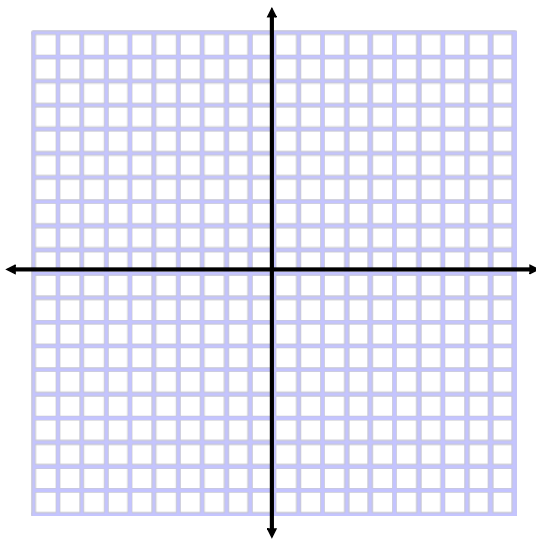
$$f(x) = x^2 + 5$$



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



$$y = -2(x - 2)^2 + 8$$



Unit 4 day 1 graphing parabolas 3 forms

New form of an equation

Intercept Form

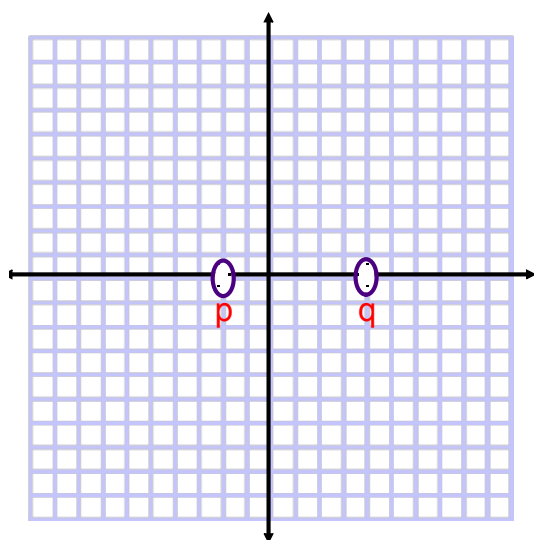
$$y = a(x - p)(x - q)$$

The intercepts are at p and q
their ordered pairs are $(p, 0)$ and $(q, 0)$.

What are the intercepts of

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

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

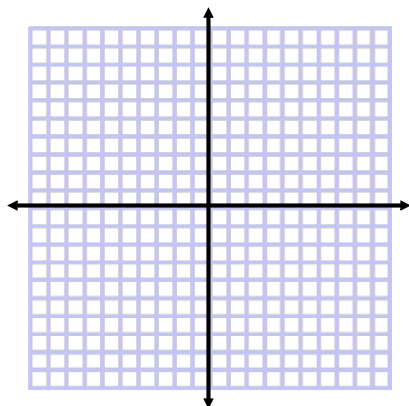


If all we know are the two intercepts-
How will we know if the graph opens up,
or opens down, or what the vertex is?

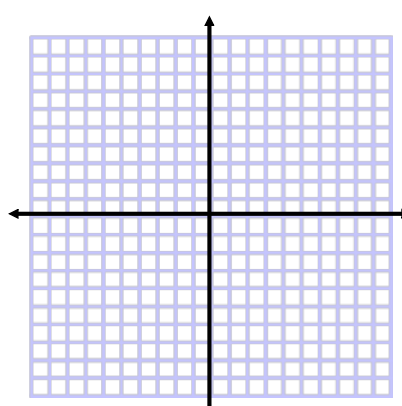
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Find the intercepts and the axis of symmetry
Decide whether the graph opens up or down.
Graph and find the domain and range.

$$y = 3(x + 2)(x + 6)$$



$$y = 2(x + 5)(x - 2)$$



What do we know about parabolas?

axis of symmetry

vertex

max or min

shape : steep or flat

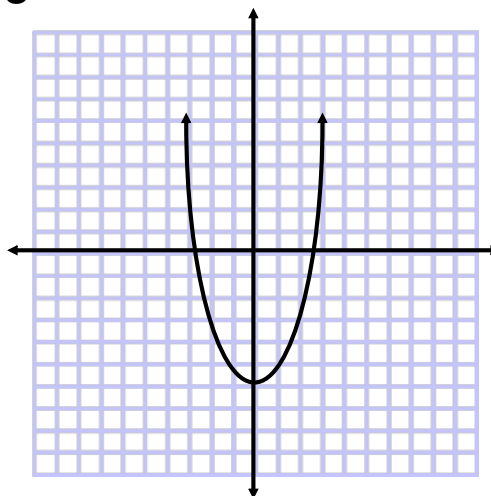
x and y intercept

New Ideas

Increasing and decreasing

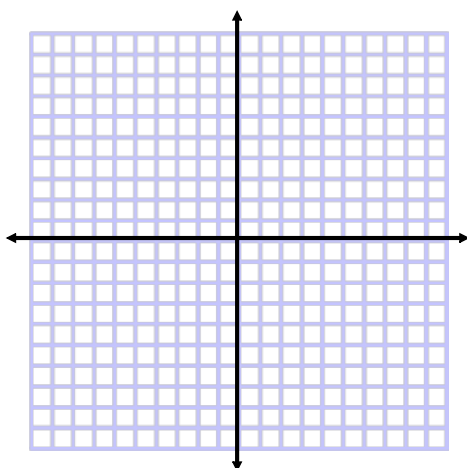
End behavior

Interval Notation



Graph the following equation:

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



Find:

Domain and Range

max or min

y intercept

x-intercept when in **intercept form**

axis of symmetry

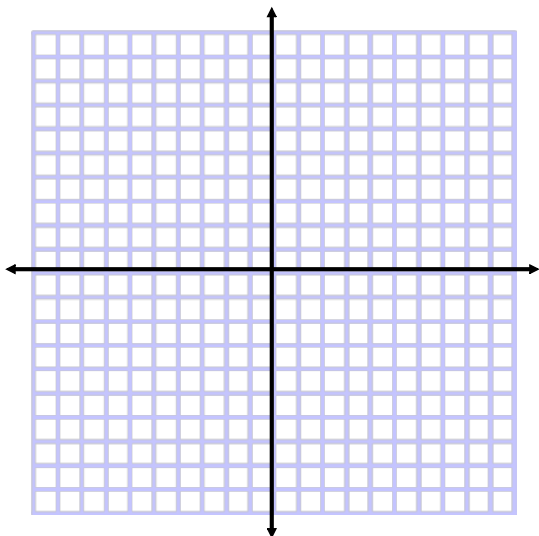
vertex

increasing and decreasing

end behavior

Homework

#3 $y = -(x + 1)(x - 3)$



#18 $y = -\frac{1}{2}(x + 2)^2 + 5$

