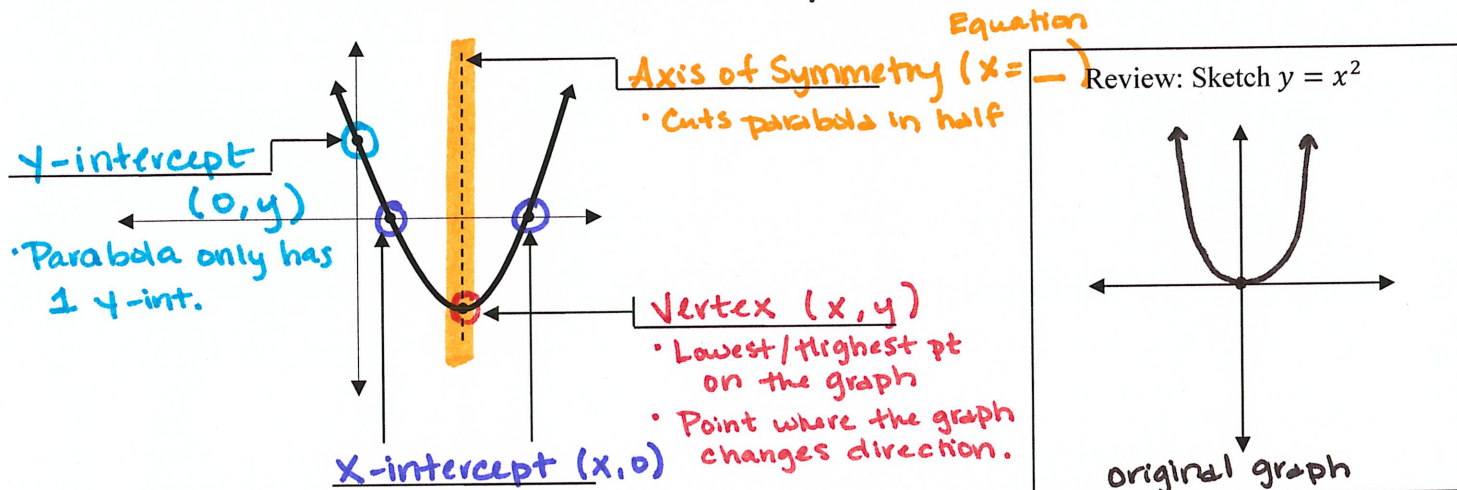


Introduction to Graphs of Quadratic Functions

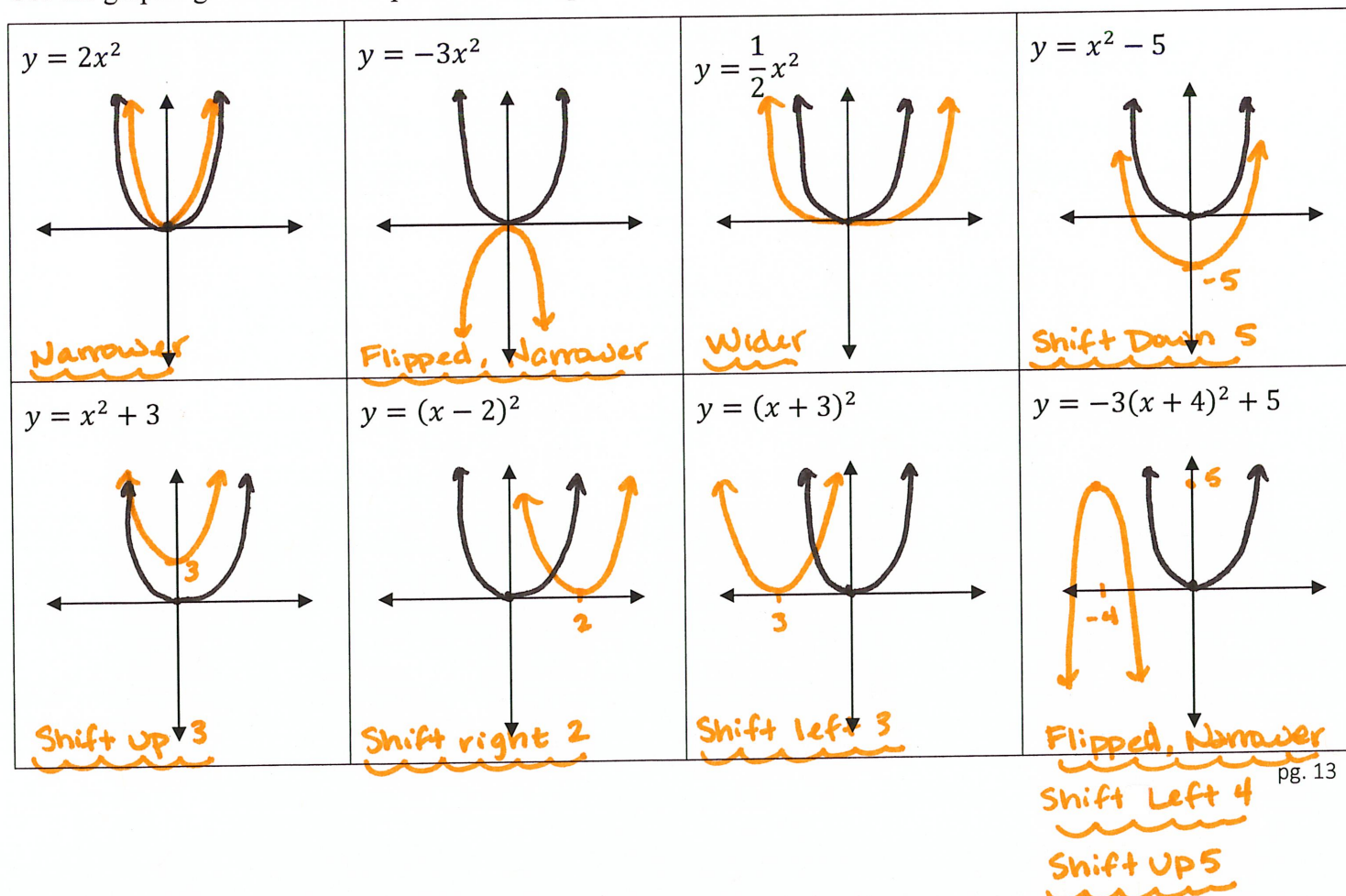
In this section we will begin exploring the graphs of quadratics. We will use graphing calculators/computers in this section, and in future sections we will learn useful techniques that we can do by hand.

Definition: Quadratic Functions are functions in the form $\rightarrow y = ax^2 + bx + c$, when a, b , and c are constants but $a \neq 0$

The shape of the graph of a quadratic function is called a parabola.



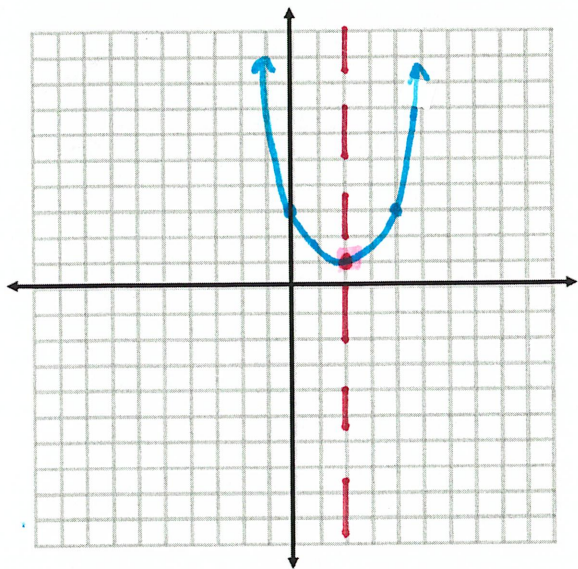
Use the graphing calculator/computer to make quick sketches for the following.



Break for Practice: Quickly sketch parabolas from the following information.

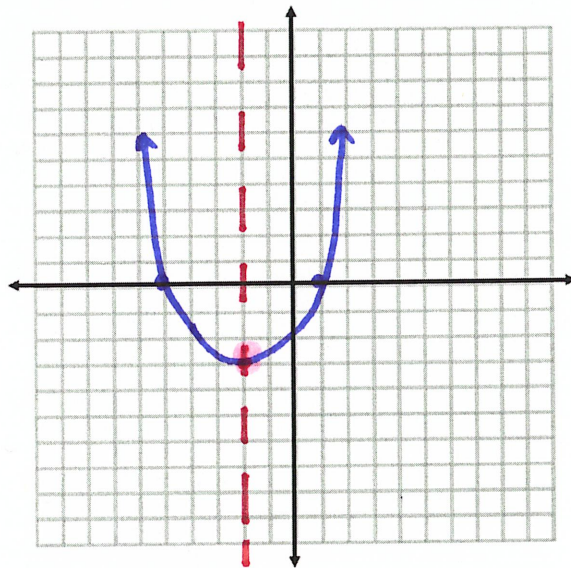
1. vertex = $(2, 1)$

y - intercept = 3



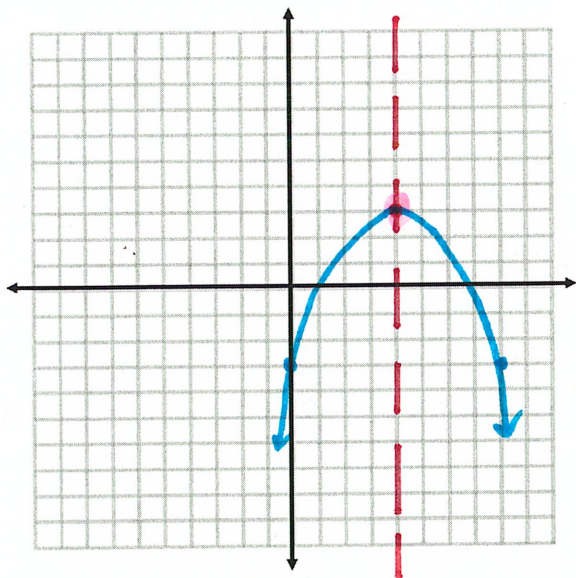
2. vertex = $(-2, -3)$

x - intercept = 1



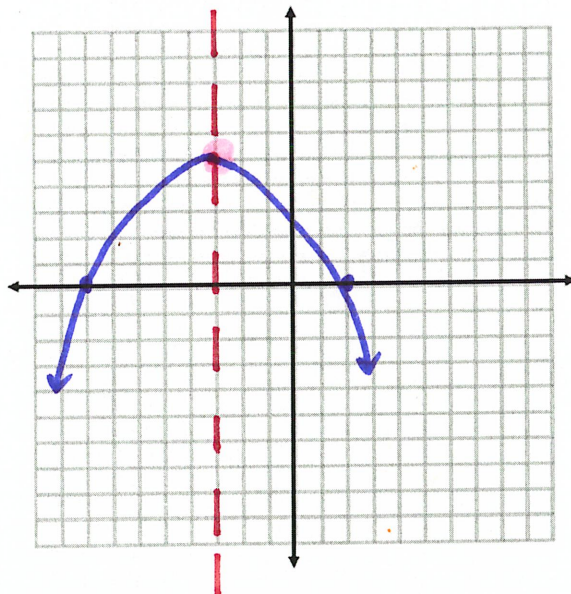
3. vertex = $(4, 3)$

y - intercept = -3



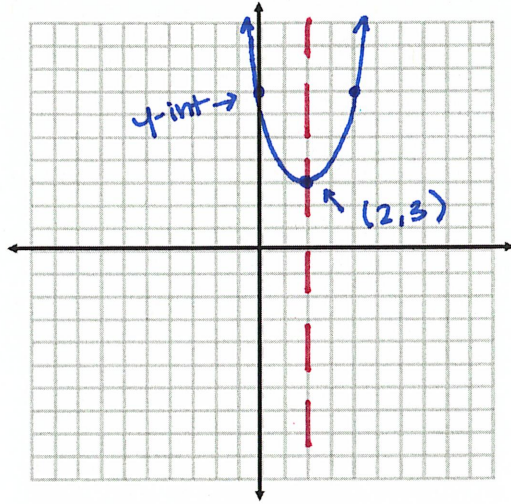
4. vertex = $(-3, 5)$

x - intercept = 2

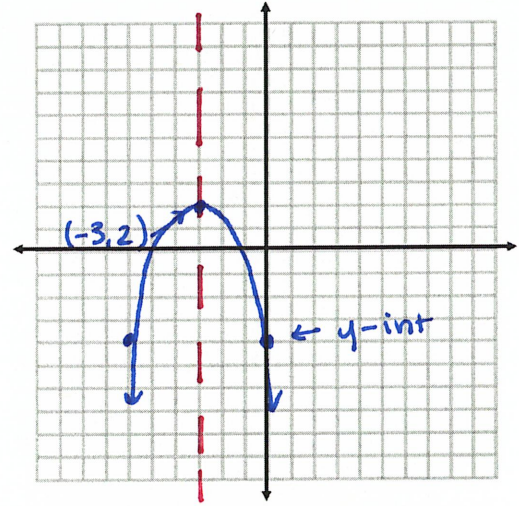


Extended Practice: Sketch the graph of the quadratic function with the given vertex and intercept.

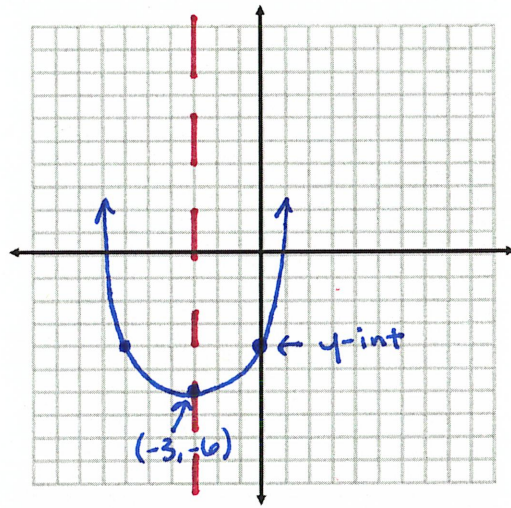
1. Vertex = $(2, 3)$ y-intercept = 7



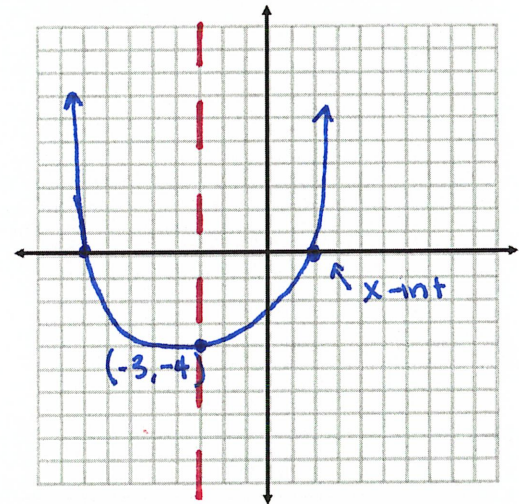
2. Vertex = $(-3, 2)$ y-intercept = -4



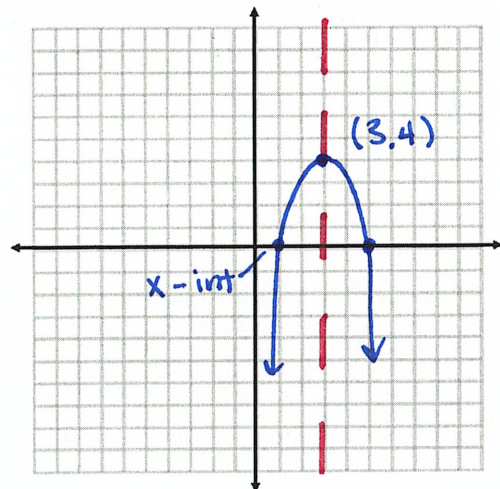
3. Vertex = $(-3, -6)$ y-intercept = -4



4. Vertex = $(-3, -4)$ x-intercept = 2



5. Vertex = $(3, 4)$ x-intercept = 1



6. Vertex = $(3, -1)$ y-intercept = -6

