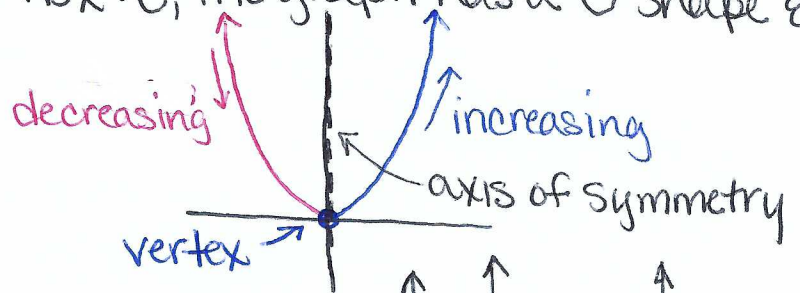


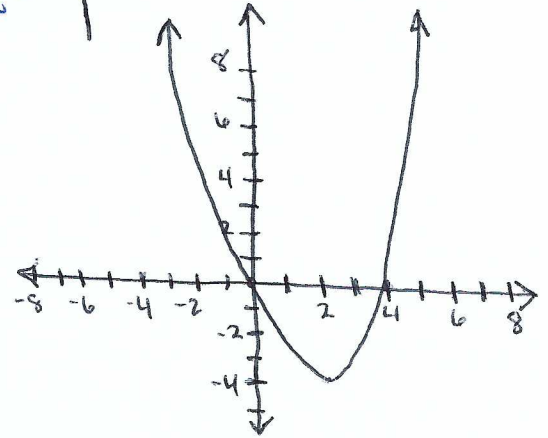
# Graphing $f(x) = ax^2$

3.1 1 day

Quadratic Function  $\rightarrow y = ax^2 + bx + c$ , the graph has a U shape & is called a parabola



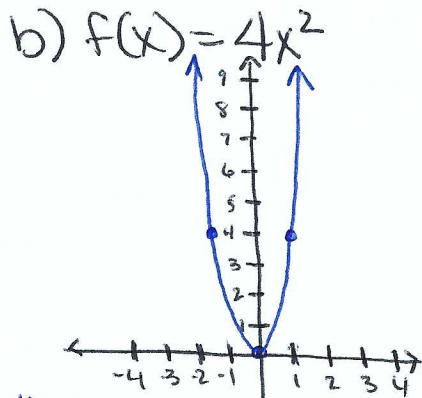
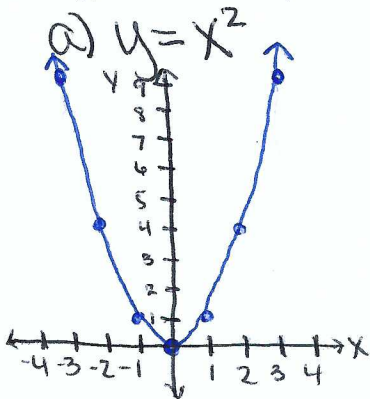
Ex 1. Identify characteristics of the quadratic function & its graph.



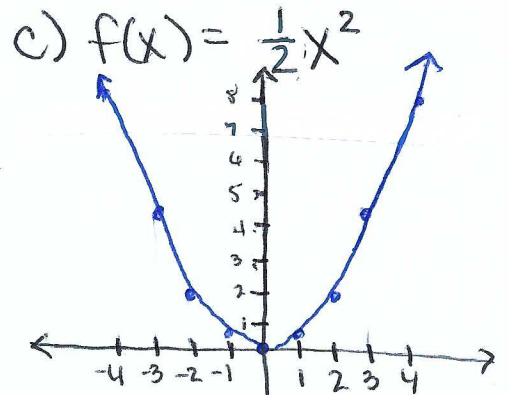
Vertex: (2, -4) axis of symmetry:  $x = 2$

Domain: all real #s, Range:  $y \geq -4$   
 when  $x < 2$   $y$  decreases when  $x > 2$   $y$  increases.

Ex 2. Graph

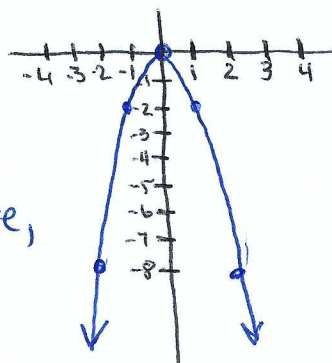


\* the bigger the #  $a$  is, the skinnier the graph



\* the smaller the #  $a$  is, the wider the graph gets.

d)  $f(x) = -2x^2$



\* when  $a$  is negative, the graph points  $\downarrow$