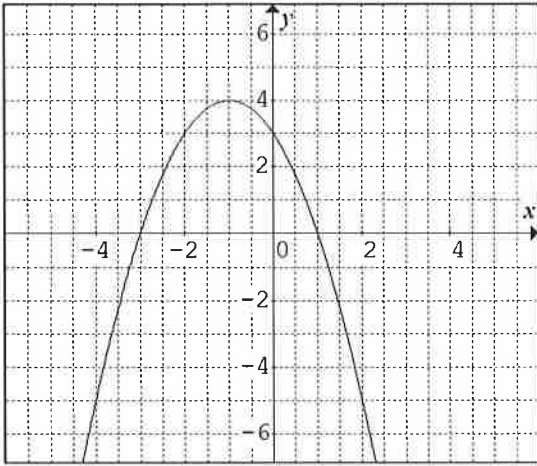


9-1 Quadratic Graphs and Their Properties

1. Given the quadratic graph below, identify the following:



a. Vertex:  $(-1, 4)$  Is vertex max or min? max

b. Domain:  $\mathbb{R}$

Range:  $y \leq 4$

c. Equation of axis of symmetry:  $x = -1$

2. Given the quadratic function  $y = \frac{1}{2}x^2 - 8$

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

a. Choose appropriate values for x and complete the table below (min 5 points):

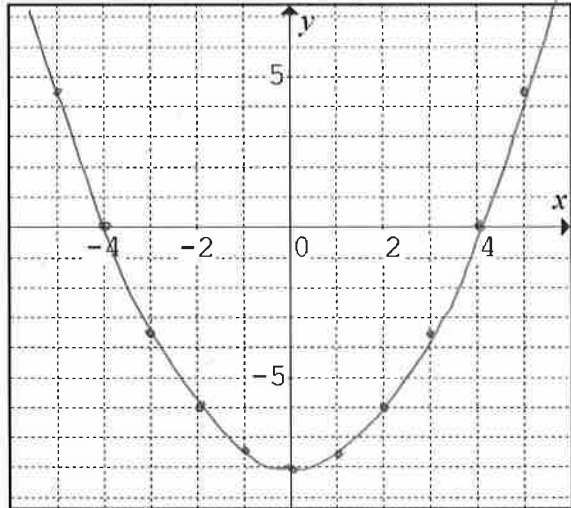
x	$y = \frac{1}{2}x^2 - 8$	y
-3	$\frac{1}{2}(-3)^2 - 8$	-3.5
-2	$\frac{1}{2}(-2)^2 - 8$	-6
-1	$\frac{1}{2}(-1)^2 - 8$	-7.5
0	$\frac{1}{2}(0)^2 - 8$	-8
1	$\frac{1}{2}(1)^2 - 8$	-7.5
2	$\frac{1}{2}(2)^2 - 8$	-6
3	$\frac{1}{2}(3)^2 - 8$	-3.5

vertex

$\frac{4}{5}$

0

b. Use your points to graph the function. Graph accurately to the edge of the grid.



3. Put the following quadratic functions in order from widest to narrowest:

$y = 2x^2, y = -\frac{1}{3}x^2, y = \frac{1}{4}x^2$

$y = \frac{1}{4}x^2, y = -\frac{1}{3}x^2, y = 2x^2$