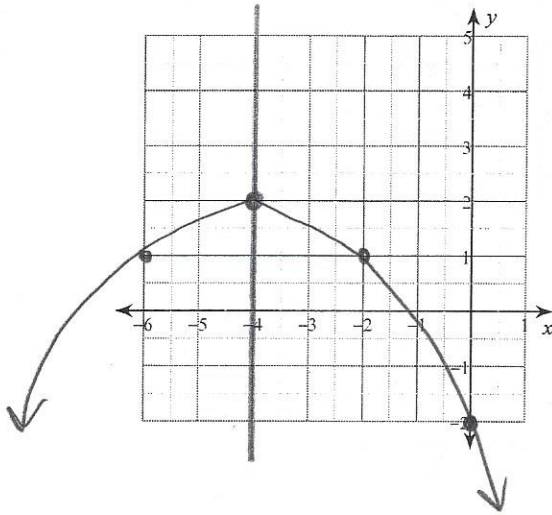


Graphing Quadratics - Vertex Form Day 1

Graph each function and fill out the table.

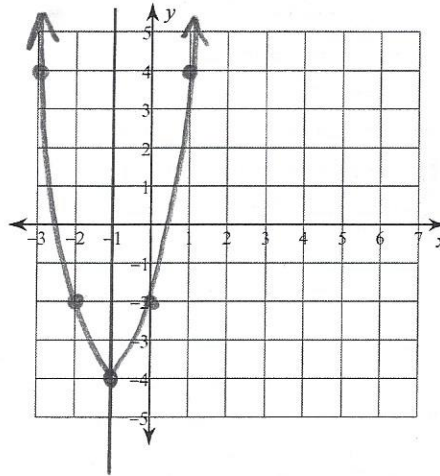
1) $f(x) = -\frac{1}{4}(x+4)^2 + 2$



$(-4, 2)$
 $x = -4$

x	y
-2	$-\frac{1}{4}(-2+4)^2 + 2$ $-1 + 2 = 1$
0	-2

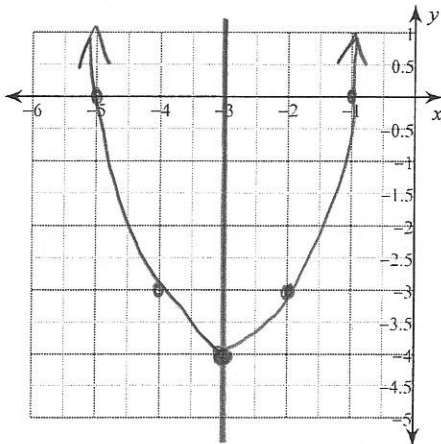
2) $f(x) = 2(x+1)^2 - 4$



$(-1, -4)$
 $x = -1$

x	y
0	$2(0+1)^2 - 4$ $2(1) - 4 = -2$
1	$2(1+1)^2 - 4$ $2(4) - 4 = 4$

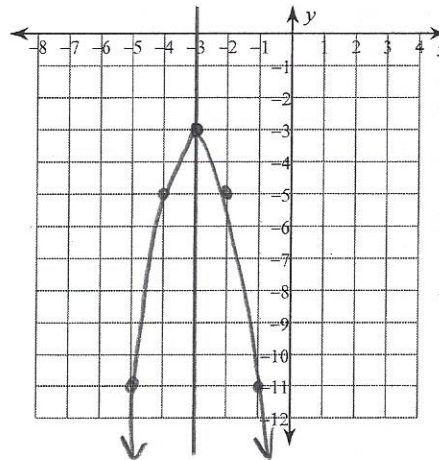
3) $f(x) = (x+3)^2 - 4$



$(-3, -4)$
 $x = -3$

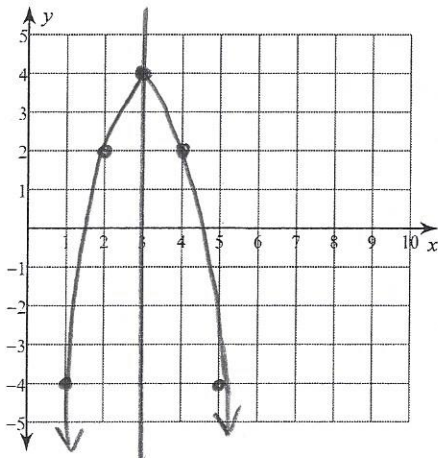
x	y
-2	$(-2+3)^2 - 4$ $1 - 4 = -3$
-1	$(-1+3)^2 - 4$ $4 - 4 = 0$

4) $f(x) = -2(x+3)^2 - 3$



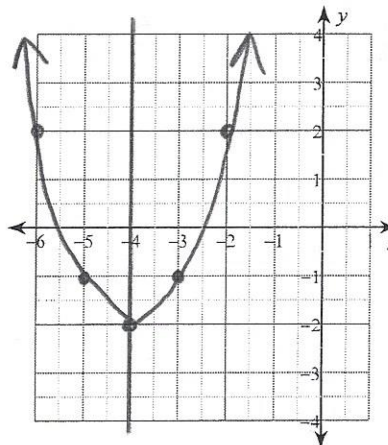
$(-3, -3)$
 $x = -3$

5) $f(x) = -2(x-3)^2 + 4$



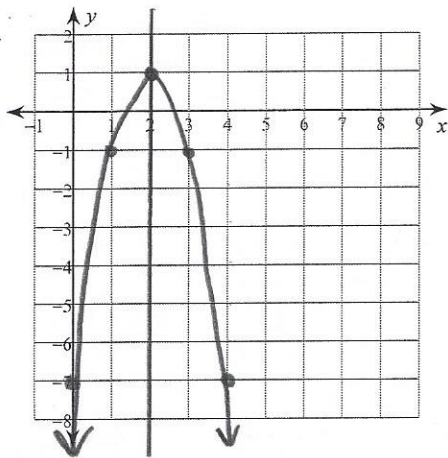
$(3, 4)$
 $x = 3$

6) $f(x) = (x+4)^2 - 2$



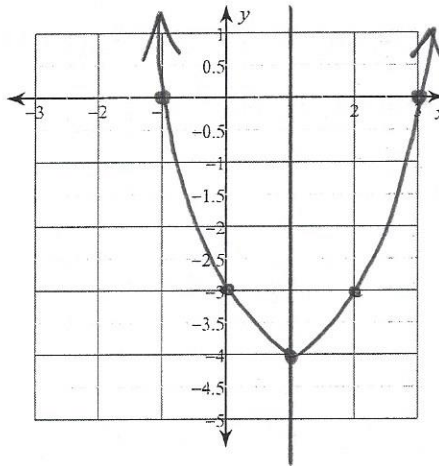
$(-4, -2)$
 $x = -4$

7) $f(x) = -2(x - 2)^2 + 1$



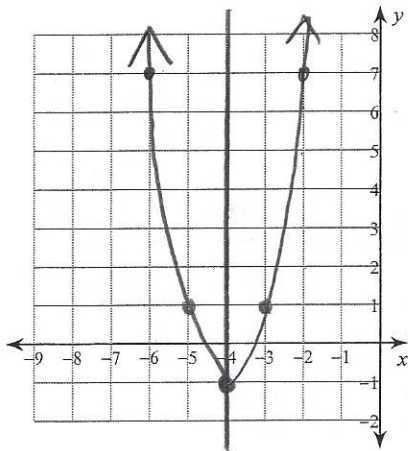
(2, 1)
x = 2

8) $f(x) = (x - 1)^2 - 4$



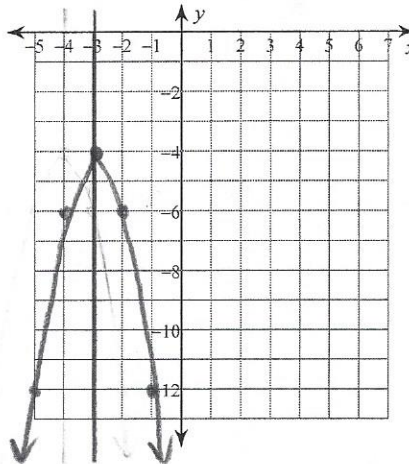
(1, -4)
x = 1

9) $f(x) = 2(x + 4)^2 - 1$



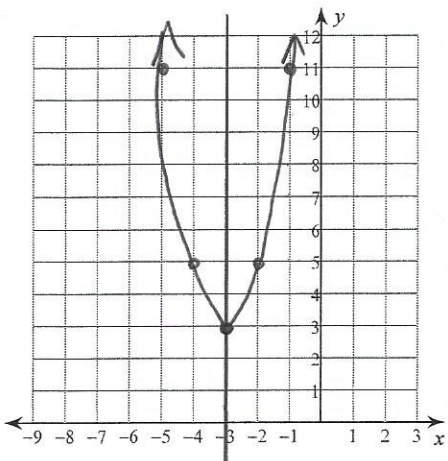
(-4, -1)
x = -4

10) $f(x) = -2(x + 3)^2 - 4$



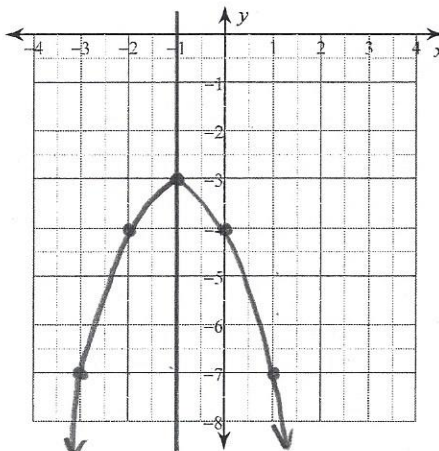
(-3, -4)
x = -3

11) $f(x) = 2(x + 3)^2 + 3$



(-3, 3)
x = -3

12) $f(x) = -(x + 1)^2 - 3$



(-1, -3)
x = -1

	Vertex	Max/min value	AOS	Zero(s)	Direction of opening	y-intercept	Domain	Range
1	$(-4, 2)$	max = 2	$x = -4$	$-1.25, -7.25$	Down	$(0, -2)$	$(-\infty, \infty)$	$(-\infty, 2]$
2	$(-1, -4)$	min = -4	$x = -1$	$.5, -2.5$	up	$(0, -2)$	$(-\infty, \infty)$	$[-4, \infty)$
3	$(-3, -4)$	min = -4	$x = -3$	$-1, -5$	up	$(0, 5)$	$(-\infty, \infty)$	$[-4, \infty)$
4	$(-3, -3)$	max = -3	$x = -3$	NS	down	$(0, -21)$	$(-\infty, \infty)$	$(-\infty, -3]$
5	$(3, 4)$	max = 4	$x = 3$	$1.5, 4.5$	down	$(0, -14)$	$(-\infty, \infty)$	$(-\infty, 4]$
6	$(-4, -2)$	min = -2	$x = -4$	$-5.5, -2.5$	up	$(0, 14)$	$(-\infty, \infty)$	$[-2, \infty)$

