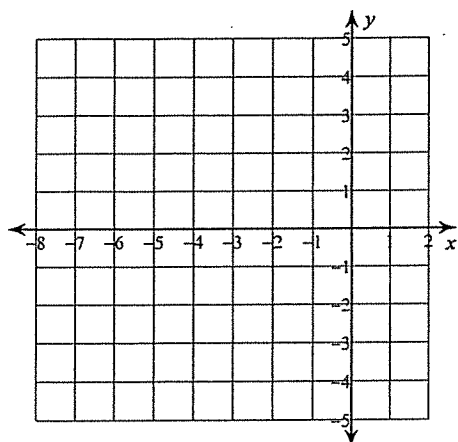


* MUST SHOW WORK

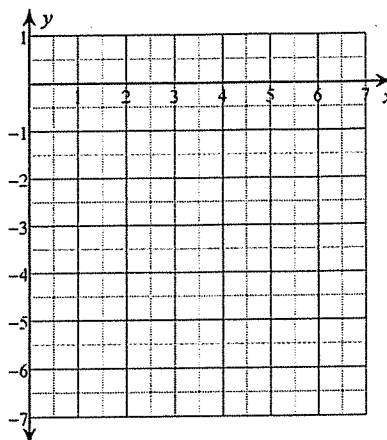
Sketch the graph of each function.

1) $y = -2x^2 - 12x - 14$ Vertex:



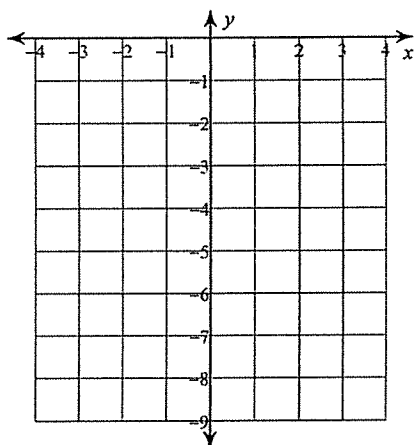
x | y

2) $y = -x^2 + 8x - 17$ Vertex:



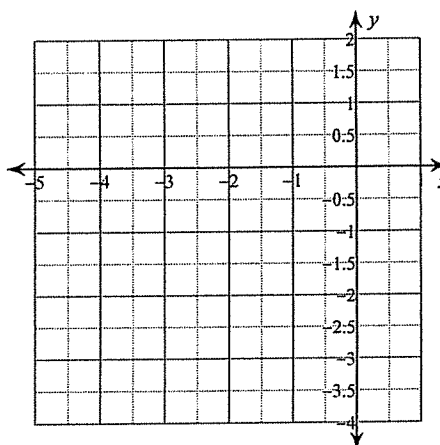
x | y

3) $y = -x^2 + 2x - 5$ Vertex:



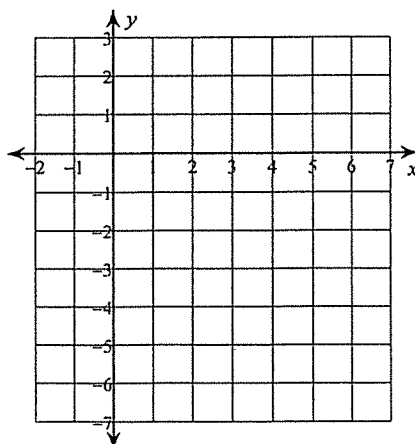
x | y

4) $y = -x^2 - 2x$ Vertex:



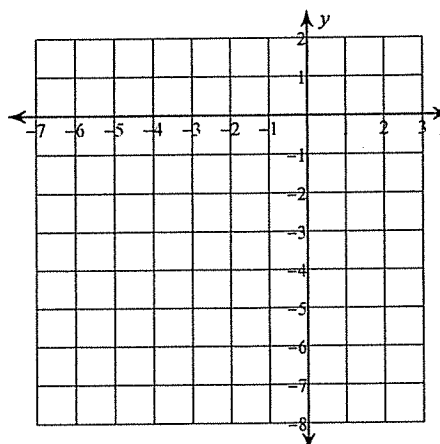
x | y

5) $y = -2x^2 + 16x - 30$ Vertex:



x | y

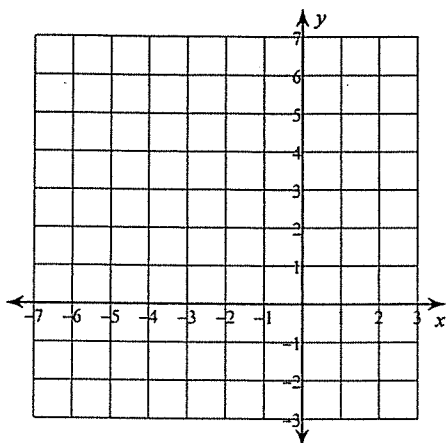
6) $y = -2x^2 - 4x - 1$ Vertex:



x | y

7) $y = 2x^2 + 4x$

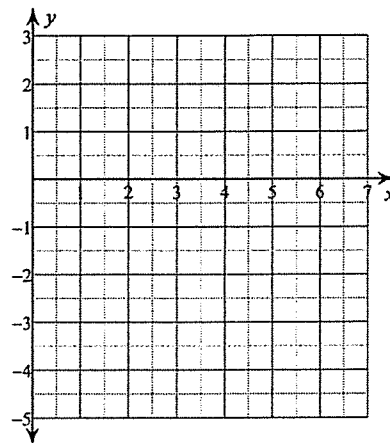
Vertex!



$x \mid y$

8) $y = -x^2 + 8x - 15$

Vertex!



$x \mid y$

Convert to standard form # 9-16

9) $y = (x - 3)^2 - 1$

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

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

12) $y = -(x + 1)^2 + 1$

13) $y = (x - 2)^2 - 1$

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

15) $y = -2(x - 2)^2 - 1$

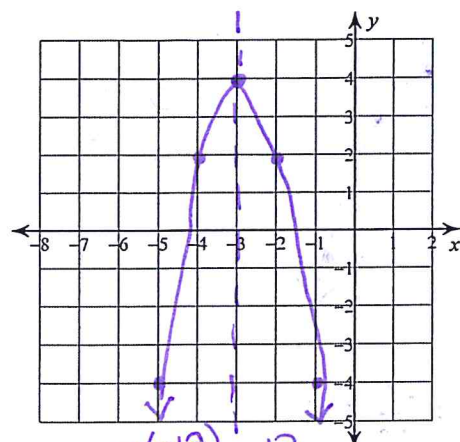
16) $y = -2(x - 3)^2 + 2$

* MUST SHOW WORK

Sketch the graph of each function.

1) $y = -2x^2 - 12x - 14$

Vertex: $(-3, 4)$



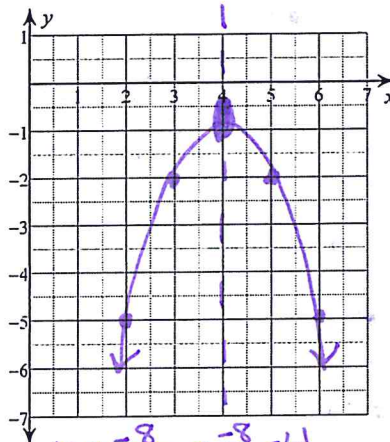
x	y
-2	2
-1	-4

$$x = \frac{-(-12)}{2(-2)} = \frac{12}{-4} = -3$$

$$y = -2(-3)^2 - 12(-3) - 14 = 4$$

2) $y = -x^2 + 8x - 17$

Vertex: $(4, -1)$



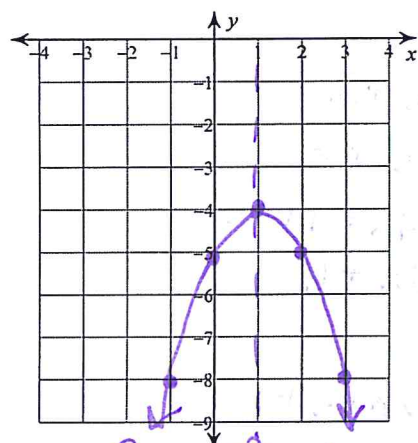
x	y
5	-2
6	-5

$$x = \frac{-8}{2(-1)} = \frac{-8}{-2} = 4$$

$$y = -1(4)^2 + 8(4) - 17 = -1$$

3) $y = -x^2 + 2x - 5$

Vertex: $(1, -4)$



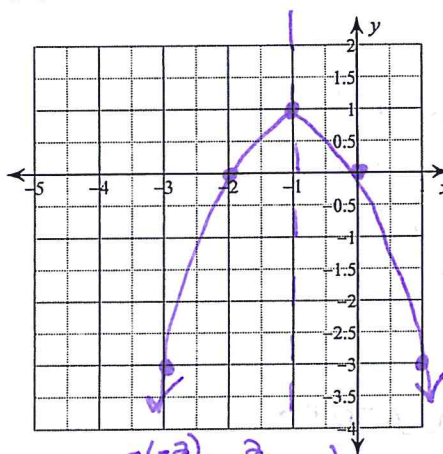
x	y
2	-5
3	-8

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

$$y = -(1)^2 + 2(1) - 5 = -4$$

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

Vertex: $(-1, 1)$



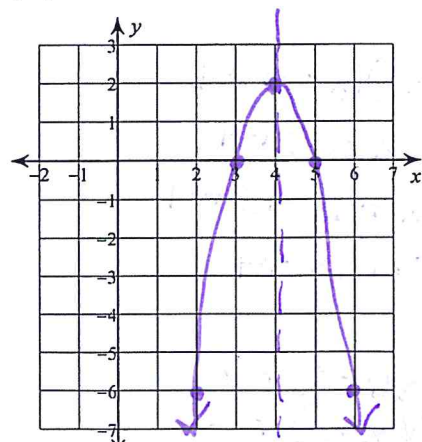
x	y
0	0
1	-3

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

$$y = -(-1)^2 - 2(-1) = 1$$

5) $y = -2x^2 + 16x - 30$

Vertex: $(4, 2)$



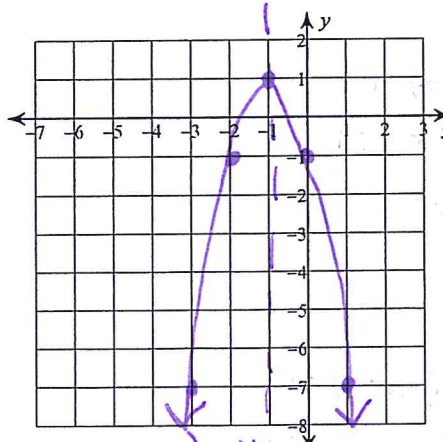
x	y
5	0
6	-6

$$x = \frac{-16}{2(-2)} = \frac{-16}{-4} = 4$$

$$y = -2(4)^2 + 16(4) - 30 = 2$$

6) $y = -2x^2 - 4x - 1$

Vertex: $(-1, 1)$



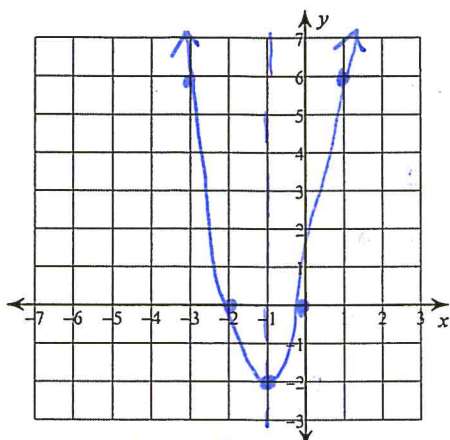
x	y
0	-1
1	-7

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

$$y = -2(-1)^2 - 4(-1) - 1 = 1$$

7) $y = 2x^2 + 4x$

Vertex: $(-1, -2)$



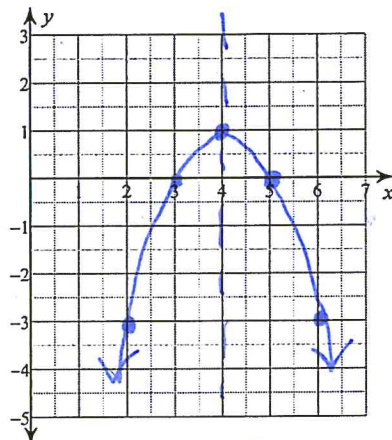
x	y
0	0
-1	-2

$$x = \frac{-b}{2a} = \frac{-4}{4} = -1$$

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

8) $y = -x^2 + 8x - 15$

Vertex: $(4, 1)$



x	y
3	0
4	1
5	0

$$x = \frac{-b}{2a} = \frac{-8}{-2} = 4$$

$$y = -(4)^2 + 8(4) - 15 = 1$$

Convert to Standard Form # 9-16

9) $y = (x-3)^2 - 1$

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

$$x^2 - 3x - 3x + 9 - 1$$

$$x^2 - 6x + 8$$

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

$$4(x-1)(x-1) + 2$$

$$(4x-4)(x-1) + 2$$

$$4x^2 - 4x - 4x + 4 + 2$$

$$4x^2 - 8x + 6$$

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

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

$$(-1x+4)(x-4) + 2$$

$$-x^2 + 4x + 4x - 16 + 2$$

$$-x^2 + 8x - 14$$

12) $y = -(x+1)^2 + 1$

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

$$(-1x-1)(x+1) + 1$$

$$-x^2 - 1x - 1x - 1 + 1$$

$$-x^2 - 2x$$

13) $y = (x-2)^2 - 1$

$$y = (x-2)(x-2) - 1$$

$$x^2 - 2x - 2x + 4 - 1$$

$$x^2 - 4x + 3$$

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

$$y = -2(x-3)(x-3) + 4$$

$$(-2x+6)(x-3) + 4$$

$$-2x^2 + 6x + 6x - 18 + 4$$

$$-2x^2 + 12x - 14$$

15) $y = -2(x-2)^2 - 1$

$$y = -2(x-2)(x-2) - 1$$

$$(-2x+4)(x-2) - 1$$

$$-2x^2 + 4x + 4x - 8 - 1$$

$$-2x^2 + 8x - 9$$

16) $y = -2(x-3)^2 + 2$

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

$$(-2x+6)(x-3) + 2$$

$$-2x^2 + 6x + 6x - 18 + 2$$

$$-2x^2 + 12x - 16$$