

Advanced Algebra

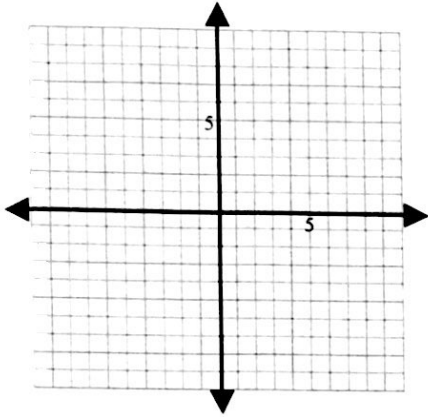
Name Answers

5.2/5.3 Graphing Worksheet

Date _____ Period _____

When asked for transformations (#4, #6, and #8), ask yourself the following questions. Is there a reflection over the x-axis? Is there a horizontal shift? Is there a vertical shift? Is there a stretch, shrink, or neither?

1. $y = x^2 - 4$



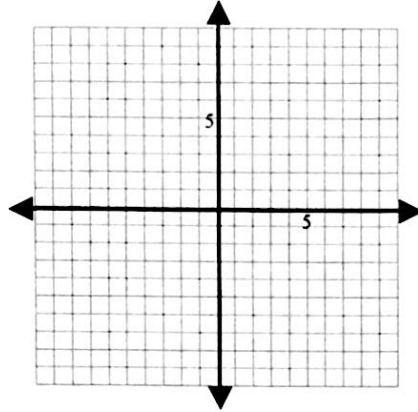
Vertex: _____

Line of Symmetry: _____

y-intercept: _____

x-intercept(s): _____

2. $g(x) = x^2 + 6x + 2$

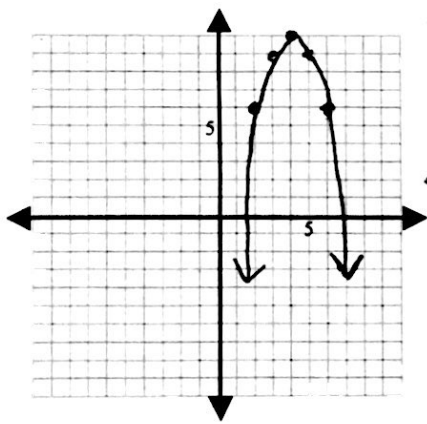


Vertex: _____

Line of Symmetry: _____

y-intercept: _____

3. $f(x) = -x^2 + 8x - 6$



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

x	y
4	10
3	9
2	6

$$-(4)^2 + 8(4) - 6$$

$$-16 + 32 - 6$$

$$10$$

$$-(3)^2 + 8(3) - 6$$

$$-9 + 24 - 6$$

$$9$$

$$-(2)^2 + 8(2) - 6$$

$$-4 + 16 - 6$$

$$6$$

Vertex: (4, 10)

Line of Symmetry: X = 4

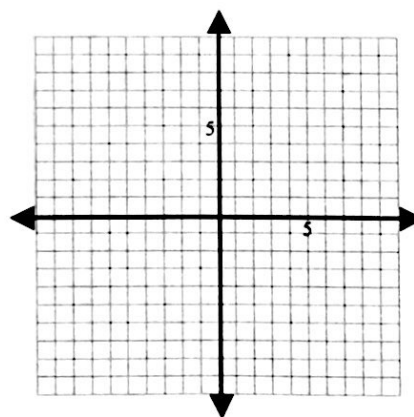
y-intercept: -6

$$-(0)^2 + 8(0) - 6$$

$$0 + 0 - 6$$

$$-6$$

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



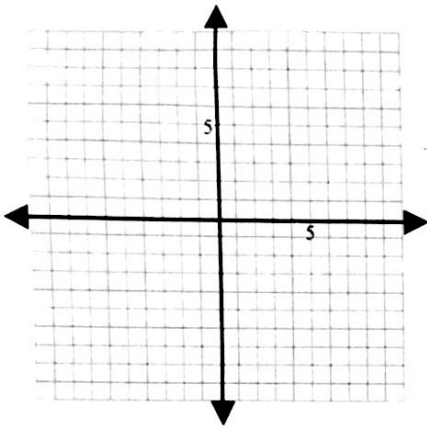
Vertex: _____

Line of Symmetry: _____

y-intercept: _____

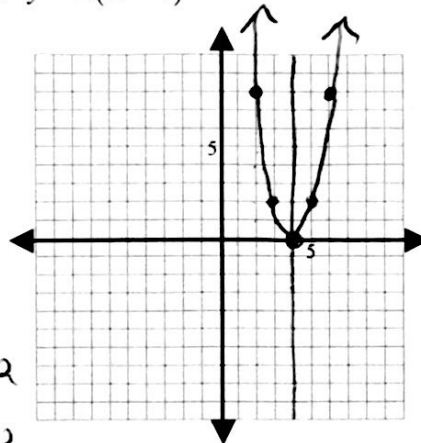
Transformations: _____

5. $h(x) = -3x^2 - 12x - 5$



Vertex: _____
 Line of Symmetry: _____
 y-intercept: _____

6. $y = 2(x - 4)^2$



X	Y
4	0
3	2
2	8

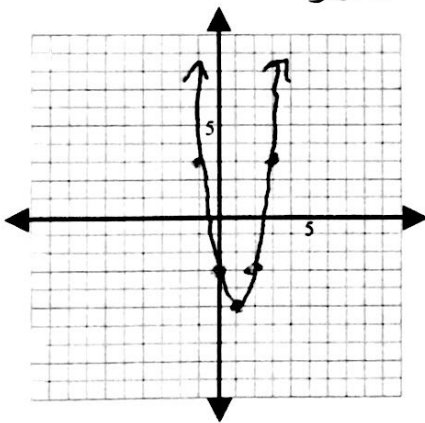
$2(2-4)^2$
 $2(-2)^2$
 $2(4)$
8

$2(3-4)^2$
 $2(-1)^2$
 $2(1)$
2

Vertex: (4, 0)
 Line of Symmetry: X = 4
 y-intercept: 32
 x-intercept(s): 4
 Transformations: right 4,
vertical stretch

$2(0-4)^2$
 $2(-4)^2$
 $2(16)$
32

7. $y = 2x^2 - 4x - 3$ $\frac{4}{2(2)} = 1$



X	Y
1	-5
0	-3
-1	3

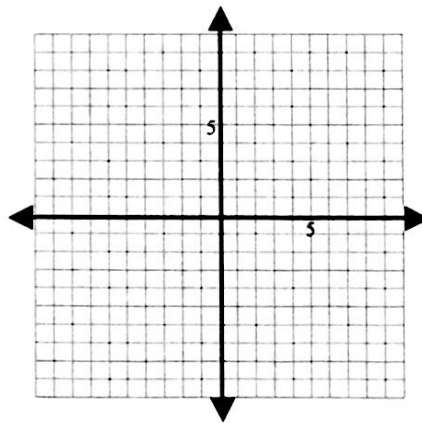
$2(1)^2 - 4(1) - 3$
 $2 - 4 - 3$
-5

$2(0)^2 - 4(0) - 3$
 $0 - 0 - 3$
-3

Vertex: (1, -5)
 Line of Symmetry: X = 1
 y-intercept: -3

$2(-1)^2 - 4(-1) - 3$
 $2 + 4 - 3$
3

8. $y = -\frac{1}{2}(x - 2)^2 + 5$



Vertex: _____
 Line of Symmetry: _____
 y-intercept: _____
 Transformations: _____