

Quadratics – Vertex and Intercept Form

Name: Key

Identify the following characteristics of the quadratic functions.

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

AOS:  $x = 4$

Vertex:  $(4, 9)$

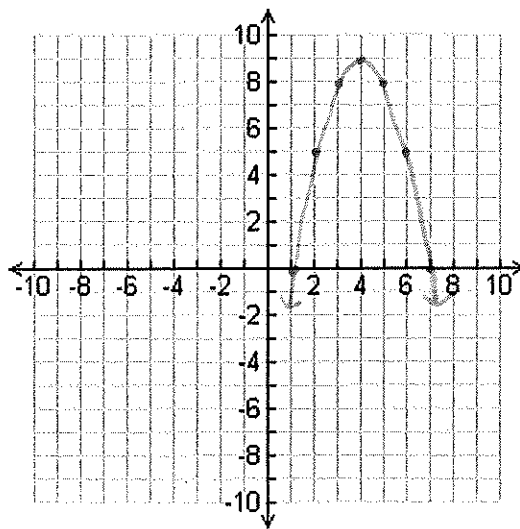
Y-Intercept:  $(0, -7)$

Max/Min: 9

Domain:  $(-\infty, \infty)$

Range:  $(-\infty, 9]$

x	y
1	0
2	5
3	8
4	9
5	8
6	5



2.)  $f(x) = 2(x + 1)^2 + 1$

AOS:  $x = -1$

Vertex:  $(-1, 1)$

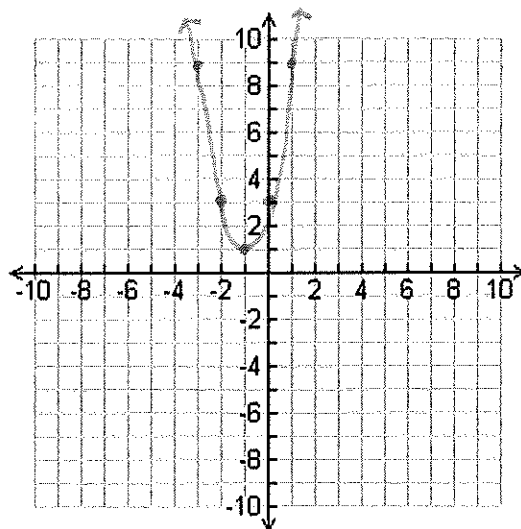
Y-Intercept:  $(0, 3)$

Max/Min: 3

Domain:  $(-\infty, \infty)$

Range:  $[1, \infty)$

x	y
-3	9
-2	3
-1	1
0	3
1	9



3.)  $f(x) = -(x - 2)^2$

AOS:  $x = 2$

Vertex:  $(2, 0)$

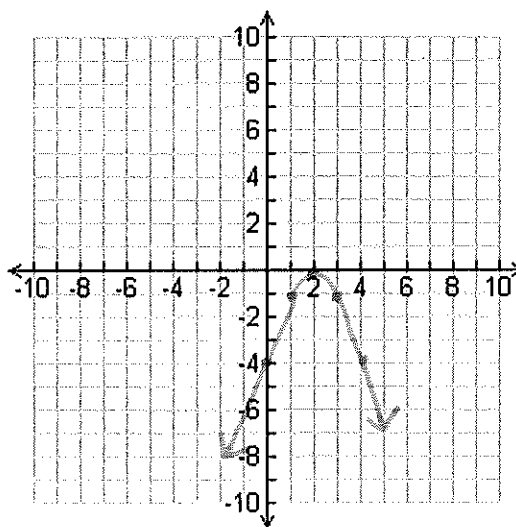
Y-Intercept:  $(0, -4)$

Max/Min: 0

Domain:  $(-\infty, \infty)$

Range:  $(-\infty, 0]$

x	y
0	-4
1	-1
2	0
3	-1
4	-4



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

AOS:  $x = 3$

Vertex:  $(3, 2)$

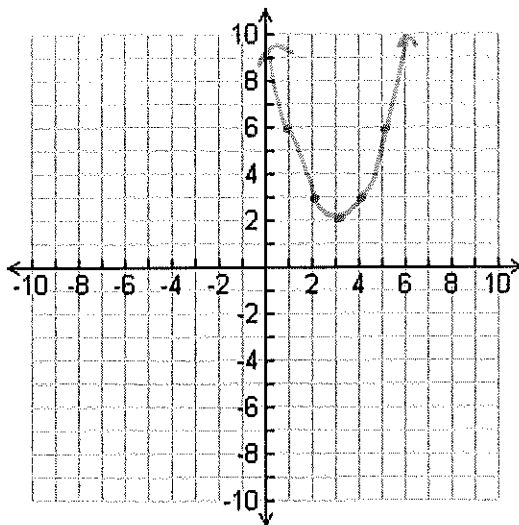
Y-Intercept:  $(0, 11)$

Max/Min: 2

Domain:  $(-\infty, \infty)$

Range:  $[2, \infty)$

x	y
1	6
2	3
3	2
4	3
5	6



5.)  $g(x) = -2(x + 1)^2 - 2$

AOS:  $x = -1$

Vertex:  $(-1, -2)$

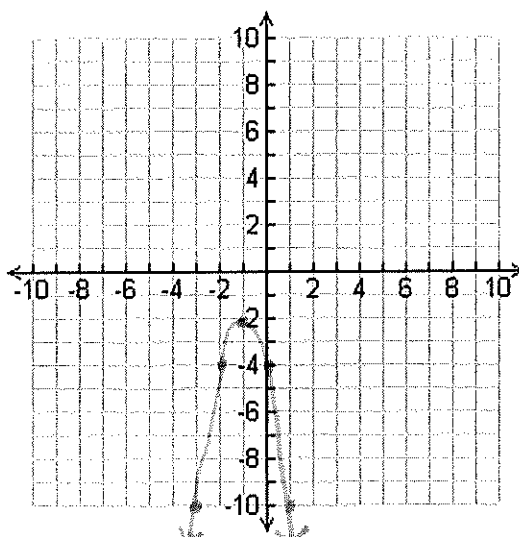
Y-Intercept:  $(0, -4)$

Max/Min: -2

Domain:  $(-\infty, \infty)$

Range:  $(-\infty, -2]$

x	y
-3	-10
-2	-4
-1	-2
0	-4
1	-10



6.)  $f(x) = (x - 4)(x - 2)$

AOS:  $x = 3$

Vertex:  $(3, -1)$

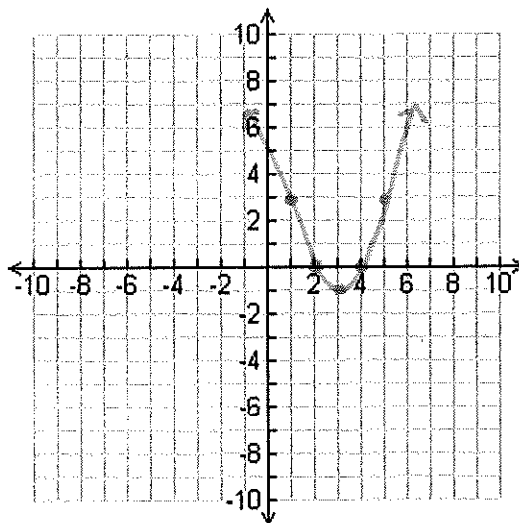
Y-Intercept:  $(0, 8)$

Max/Min: -1

Domain:  $(-\infty, \infty)$

Range:  $[-1, \infty)$

x	y
1	3
2	0
3	-1
4	0
5	3



7.)  $h(x) = -(x - 3)(x + 3)$

AOS:  $x = 0$

Vertex:  $(0, 9)$

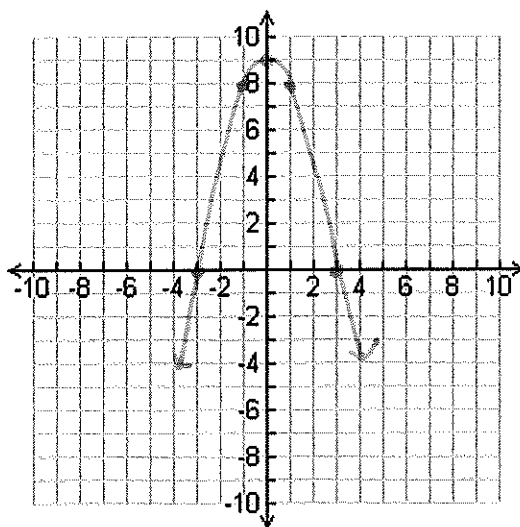
Y-Intercept:  $(0, 9)$

Max/Min: 9

Domain:  $(-\infty, \infty)$

Range:  $(-\infty, 9]$

x	y
-3	0
-1	8
0	9
1	8
3	0



8.)  $f(x) = (x - 5)(x + 1)$

AOS:  $x = 2$

Vertex:  $(2, -9)$

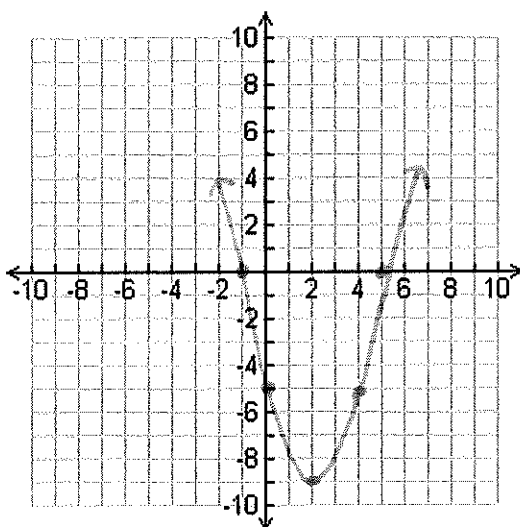
Y-Intercept:  $(0, -5)$

Max/Min: -9

Domain:  $(-\infty, \infty)$

Range:  $[-9, \infty)$

x	y
-1	0
0	-5
2	-9
4	-5
5	0



9.)  $g(x) = -2x(x - 4)$

AOS:  $x = 2$

Vertex:  $(2, 8)$

Y-Intercept:  $(0, 0)$

Max/Min: 8

Domain:  $(-\infty, \infty)$

Range:  $(-\infty, 8]$

x	y
0	0
1	6
2	8
3	6
4	0

