

2.1

Answer Key

1.

Axis of Symmetry: $x = 4$

y-intercept: $(0, 15)$

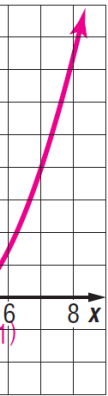
Opens up or down? up

Maximum or minimum? minimum

Value or max or min? -1

Vertex: $(4, -1)$

x	0	2	4	6	8
$f(x)$	15	3	-1	3	15



2.

Axis of Symmetry: $x = -2$

y-intercept: $(0, 12)$

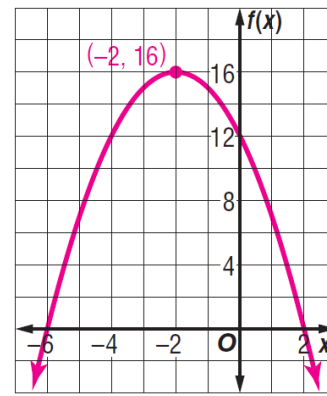
Opens up or down? down

Maximum or minimum? maximum

Value or max or min? 16

Vertex: $(-2, 16)$

x	-6	-4	-2	0	2
$f(x)$	0	12	16	12	0



3.

Axis of Symmetry: $x = \frac{1}{2}$

y-intercept: $x = 1$

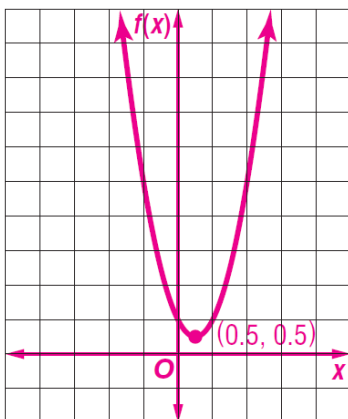
Opens up or down? up

Maximum or minimum? minimum

Value or max or min? $\frac{1}{2}$

Vertex: $(\frac{1}{2}, \frac{1}{2})$

x	-1	0	.5	1	2
$f(x)$	5	1	.5	1	5



4. minimum; -9

5. minimum; 5

6. maximum; -8

7. minimum; -8

8. maximum; 3

9. maximum; 0

2.2**Answer Key**

1.
 $(-2, -1)$
 $x = -2$
 down

2.
 $(0, 2)$
 $x = 0$
 up

3.
 $(1, 4)$
 $x = 1$
 down

4.
 $(-5, -5)$
 $x = -5$
 up

5.
 $(-3, 0)$
 $x = -3$
 up

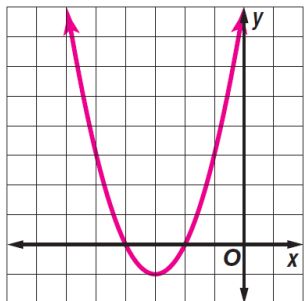
6.
 $(1, 2)$
 $x = 1$
 up

7.
 $(-4, 0)$
 $x = -4$
 down

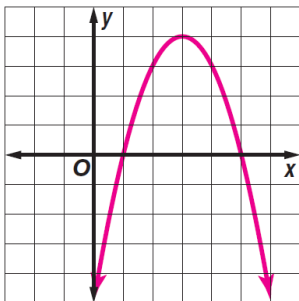
8.
 $(3, 6)$
 $x = 3$
 down

9.
 $(-4, -3)$
 $x = -4$
 up

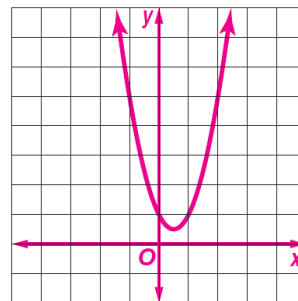
10. $y = (x+3)^2 - 1$



11. $y = -x^2 + 6x - 5$



12. $y = 2x^2 - 2x + 1$



13. $y = -2(x-1)^2 + 3$

14. $y = \frac{2}{5}(x-10)^2 - 4$

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

16. 103 feet; 2.5 seconds

17. $y = -\frac{5}{8}(x-4)^2 + 10$

2.3

Answer Key

1. $\{-1, 1\}$

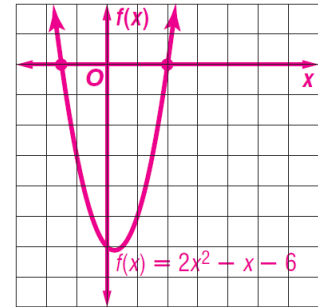
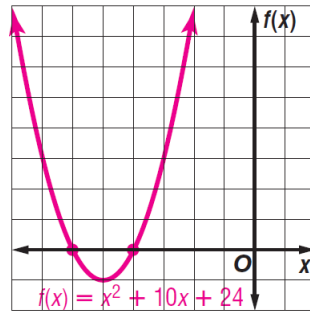
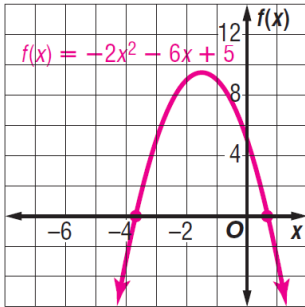
2. No real solutions

3. $\{1, 2\}$

4. $-2x^2 - 6x + 5 = 0$

5. $x^2 + 10x + 24 = 0$

6. $2x^2 - x - 6 = 0$



Roots: between 0 and 1
between -4 and -3

Roots: $\{-6, -4\}$

Roots: between -2 and -1
2

7. $\{3, -2\}$

8. no such real numbers exist

9. 3.75 seconds

10. 15 seconds

11. 20 feet, 1 second after throwing the ball