

## Answers to Analyzing Parabolas

1) vertex:  $(1, 3)$

axis of symmetry:  $x = 1$

direction of opening: down

max/min value: max at  $y = 3$

decreasing values:  $x > 1$

increasing values:  $x < 1$

3) vertex:  $(1, -1)$

axis of symmetry:  $x = 1$

direction of opening: up

max/min value: min at  $y = -1$

decreasing values:  $x < 1$

increasing values:  $x > 1$

5) vertex:  $(2, -1)$

axis of symmetry:  $x = 2$

direction of opening: down

max/min value: max at  $y = -1$

decreasing values:  $x > 2$

increasing values:  $x < 2$

7) vertex:  $(-3, -6)$

axis of symmetry:  $x = -3$

direction of opening: up

max/min value: max at  $y = -6$

decreasing values:  $x < -3$

increasing values:  $x > -3$

2) vertex:  $(6, -5)$

axis of symmetry:  $x = 6$

direction of opening: up

max/min value: min at  $y = -5$

decreasing values:  $x < 6$

increasing values:  $x > 6$

4) vertex:  $(0, -1)$

axis of symmetry:  $x = 0$

direction of opening: down

max/min value: max at  $y = -1$

decreasing values:  $x > 0$

increasing values:  $x < 0$

6) vertex:  $(-2, 3)$

axis of symmetry:  $x = -2$

direction of opening: up

max/min value: min at  $y = 3$

decreasing values:  $x < -2$

increasing values:  $x > -2$

8) vertex:  $(-6, 2)$

axis of symmetry:  $x = -6$

direction of opening: down

max/min value: max at  $y = 2$

decreasing values:  $x > -6$

increasing values:  $x < -6$