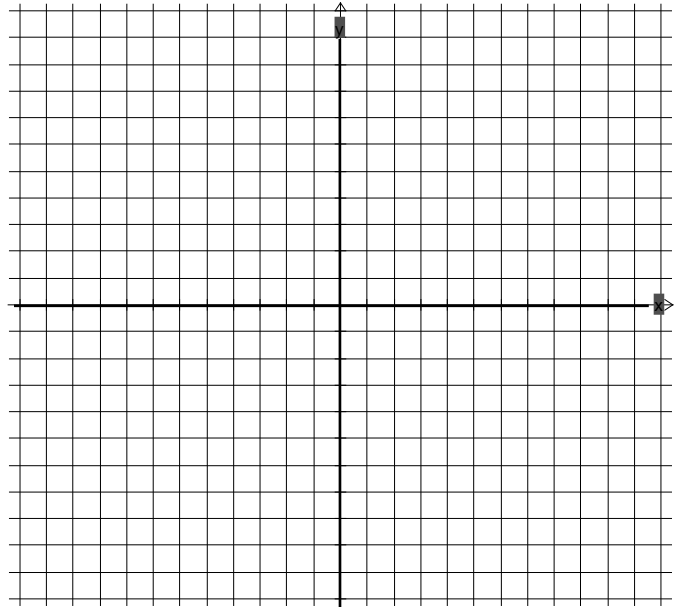


**Worksheet 8-2: Graphing Quadratic Functions by Table of Values**

1. Graph  $y = x^2$  by first completing the following table of values.

$x$	$x^2 = y$	$(x, y)$
3		
2		
1		
0		
-1		
-2		
-3		



(a) State the coordinates of the vertex.

(b) Does the parabola open upward or downward?

(c) State the maximum or minimum  $y$ -value.

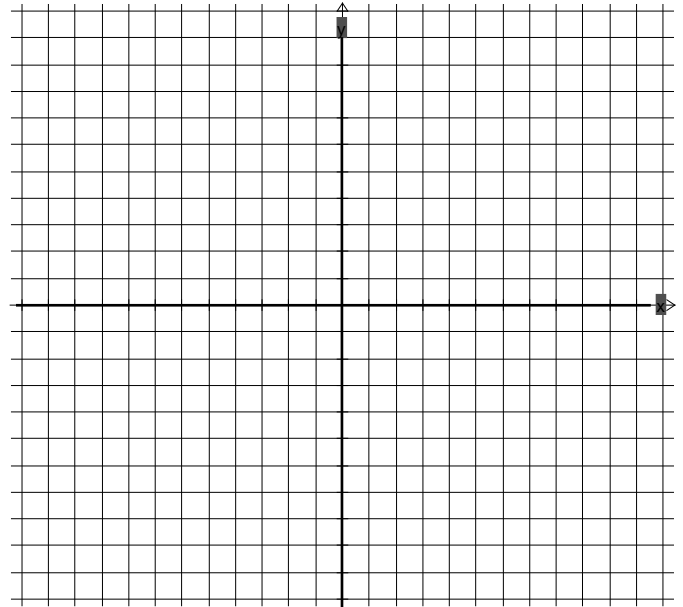
(d) State the equation for the axis of symmetry.

(e) State the  $x$ -intercepts if they exist. What is the  $y$ -coordinate of each  $x$ -intercept?

(f) State the  $y$ -intercept if it exists. What is the  $x$ -coordinate of the  $y$ -intercept?

2. Graph  $y = x^2 - 2x$

$X$	$x^2 - 2x = y$	$(x, y)$
4		
3		
2		
1		
0		
-1		
-2		



(a) State the coordinates of the vertex.

(b) Does the parabola open upward or downward?

(c) State the maximum or minimum  $y$ -value.

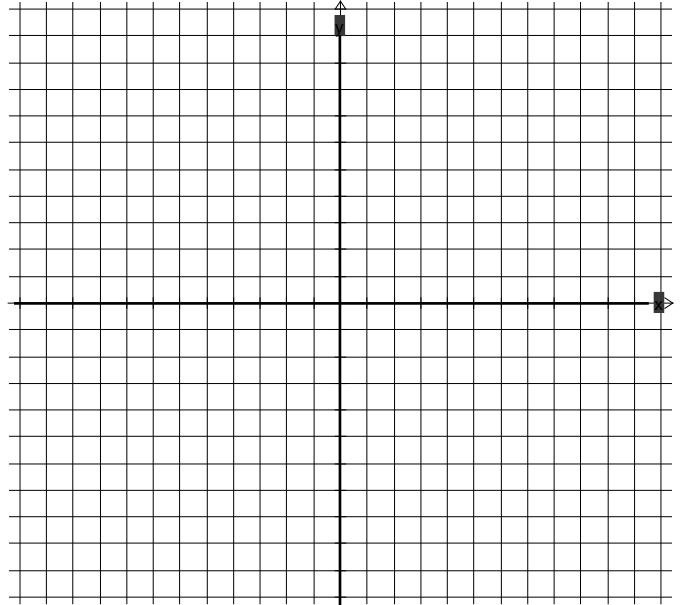
(d) State the equation for the axis of symmetry.

(e) State the  $x$ -intercepts if they exist. What is the  $y$ -coordinate of each  $x$ -intercept?

(f) State the  $y$ -intercept if it exists. What is the  $x$ -coordinate of the  $y$ -intercept?

3. Graph  $y = -x^2$ 

$x$	$-x^2 = y$	$(x, y)$
3		
2		
1		
0		
-1		
-2		
-3		



(a) State the coordinates of the vertex.

(b) Does the parabola open upward or downward?

(c) State the maximum or minimum  $y$ -value.

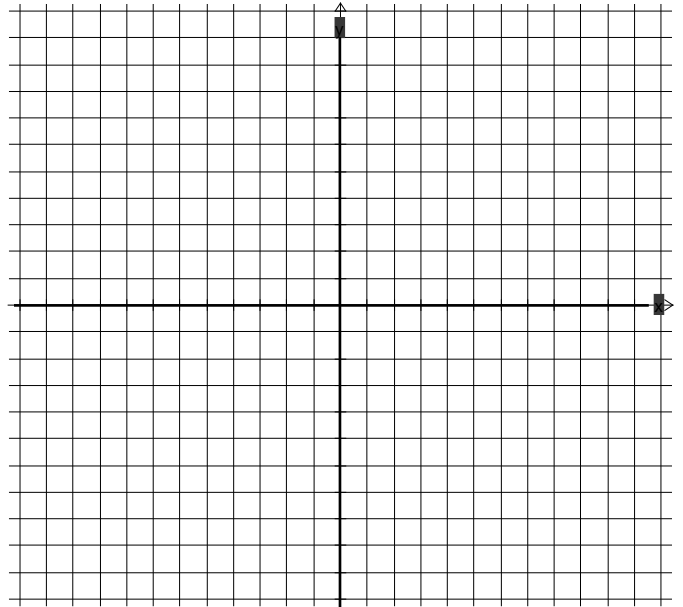
(d) State the equation for the axis of symmetry.

(e) State the  $x$ -intercepts if they exist. What is the  $y$ -coordinate of each  $x$ -intercept?

(f) State the  $y$ -intercept if it exists. What is the  $x$ -coordinate of the  $y$ -intercept?

4. Graph  $y = -x^2 + 7$ 

$x$	$-x^2 + 7 = y$	$(x, y)$
3		
2		
1		
0		
-1		
-2		
-3		



(a) State the coordinates of the vertex.

(b) Does the parabola open upward or downward?

(c) State the maximum or minimum  $y$ -value.

(d) State the equation for the axis of symmetry.

(e) State the  $x$ -intercepts if they exist. What is the  $y$ -coordinate of each  $x$ -intercept?

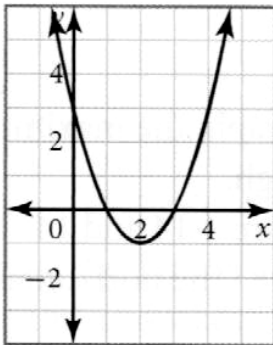
(f) State the  $y$ -intercept if it exists. What is the  $x$ -coordinate of the  $y$ -intercept?

**Properties of Quadratic Relations**

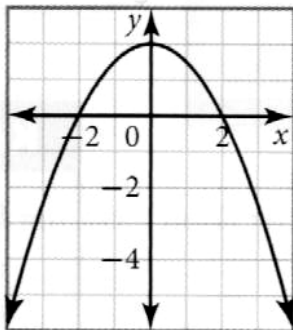
For each of the given graphs of quadratic relations:

- (a) State the coordinates of the vertex.
- (b) Does the parabola open upward or downward?
- (c) State the maximum or minimum  $y$ -value.
- (d) State the equation for the axis of symmetry.
- (e) State the  $x$ -intercepts if they exist. What is the  $y$ -coordinate of each  $x$ -intercept?
- (f) State the  $y$ -intercept if it exists. What is the  $x$ -coordinate of the  $y$ -intercept?

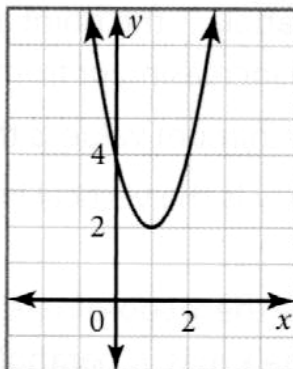
1.



2.



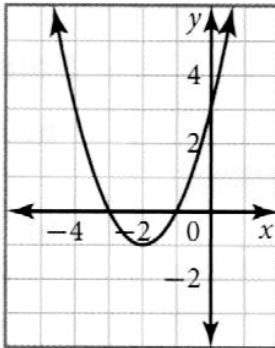
3.



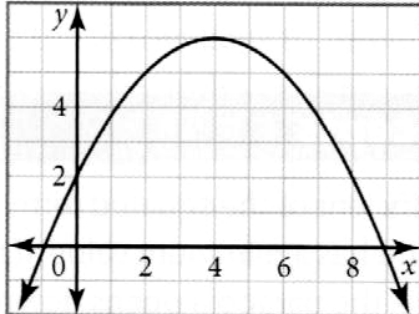
For each of the given graphs of quadratic relations:

- (a) State the coordinates of the vertex.
- (b) Does the parabola open upward or downward?
- (c) State the maximum or minimum  $y$ -value.
- (d) State the equation for the axis of symmetry.
- (e) State the  $x$ -intercepts if they exist. What is the  $y$ -coordinate of each  $x$ -intercept?
- (f) State the  $y$ -intercept if it exists. What is the  $x$ -coordinate of the  $y$ -intercept?

4.



5.



6.

