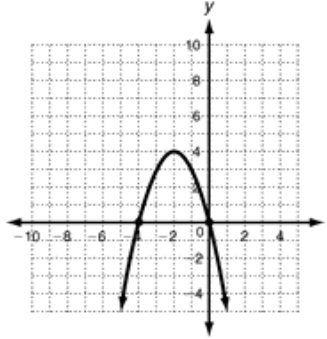


Determine the value of the zeros, the equation of the axis of symmetry, the max or min value and the vertex.

1.



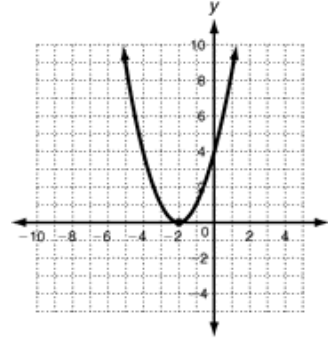
Zeros:

Axis of symmetry:

Max or Min:

Vertex:

2.



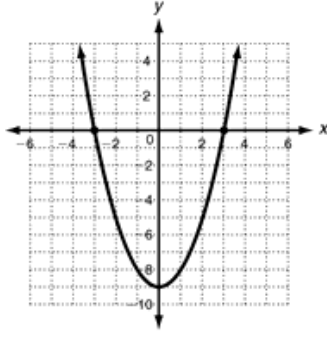
Zeros:

Axis of symmetry:

Max or Min:

Vertex:

3.



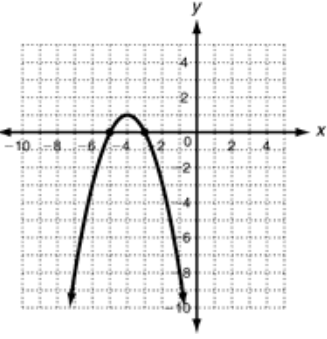
Zeros:

Axis of symmetry:

Max or Min:

Vertex:

4.



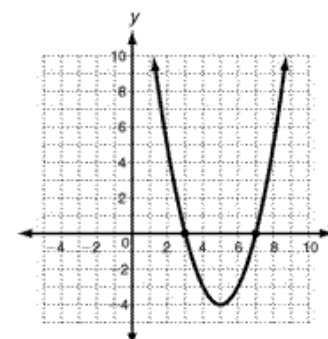
Zeros:

Axis of symmetry:

Max or Min:

Vertex:

5.



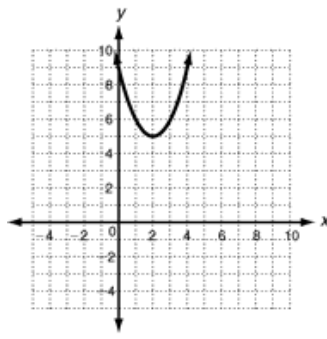
Zeros:

Axis of symmetry:

Max or Min:

Vertex:

6.



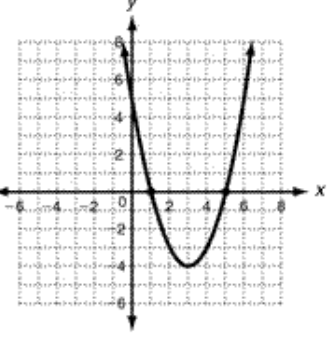
Zeros:

Axis of symmetry:

Max or Min:

Vertex:

7.



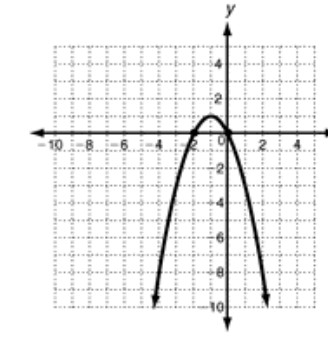
Zeros:

Axis of symmetry:

Max or Min:

Vertex:

8.



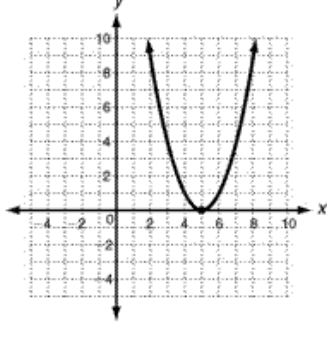
Zeros:

Axis of symmetry:

Max or Min:

Vertex:

9.



Zeros:

Axis of symmetry:

Max or Min:

Vertex:

Calculate the vertex of the parabola using the equation.

10. $y = x^2 + 4x - 7$	11. $y = -x^2 + 8x + 16$	12. $y = 3x^2 - 6x - 2$
13. $y = -2x^2 - 8x - 3$	14. $y = 2x^2 + 4x + 1$	15. $y = -5x^2 + 10x + 3$
16. $y = 3x^2 - 18x + 1$	17. $y = x^2 + 10x - 7$	18. $y = -x^2 + 6x + 1$

Bonus: Find the vertex of $y = \frac{1}{2}x^2 + 2x$