

Identify the vertex and axis of symmetry of a parabola

1 Discriminant

A

$$\Delta = b^2 - 4ac$$

B

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

C

$$x = \frac{-b}{2a}$$

2 What is the name of this formula?

$$\Delta = b^2 - 4ac$$

A

X Coordinate of Vertex

B

Quadratic Formula

C

Discriminant

3 What is the purpose of this formula?

$$x = \frac{-b}{2a}$$

A

Find the roots (solutions) of the equation

B

Find the number and type of roots (solutions)

C

Find the vertex (turning point) of the graph

4 Find the roots (solutions) of the equation

A

$$\Delta = b^2 - 4ac$$

B

$$x = \frac{-b}{2a}$$

C

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

5 What would the min/max y-value of this function be?

$$y = 0.5(x + 4)^2 - 4$$

A

Max: 0.5

B

Min: -4

C

Max: -4

6 Max: -4

A

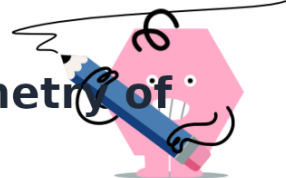
(-3, -4)

B

(3, 4)

C

(-3, 4)



Identify the vertex and axis of symmetry of a parabola

7

What is the X-coordinate of the vertex of this quadratic equation (use the vertex formula)?

$$y = -4x^2 - 2x - 5$$

vertex x-coordinate:

$$x = \frac{-b}{2a}$$

A $x = -0.75$ B $x = -0.25$ C $x = 0$ **8**

What is the X-coordinate of the vertex of this quadratic equation?

$$y = -4x^2 - 2x - 2$$

A

 $x = 0$

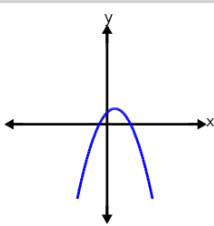
B

 $x = -0.25$ **9**

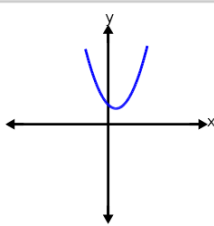
Which graph shows this quadratic function?

$$y = 0.5(x - 1)^2 + 2$$

A



B

**10**

What would the vertex of this function be?

$$y = -0.5(x - 2)^2 - 3$$

A

 $(-0.5, -3)$

B

 $(-0.5, 2)$

C

 $(2, -3)$

D

 $(2, 3)$

E

 $(-3, 2)$

F

 $(-2, -3)$ **11**

Complete the square and convert this to vertex form to find the vertex

$$y = 5x^2 + 30x + 42$$

A

 $(-3, 3)$

B

 $(3, -3)$

C

 $(-3, -3)$

D

 $(5, -3)$ **12**

Complete the square and convert this to vertex form to find the vertex

$$y = -5x^2 - 30x - 49$$

A

 $(-5, -3)$

B

 $(-4, -3)$

C

 $(3, -4)$

D

 $(-5, -4)$

E

 $(-3, -4)$

F

 $(-3, 4)$ **13**

Complete the square and convert this to vertex form to find the vertex

$$y = x^2 + 6x + 6$$

A

 $(-3, -3)$

B

 $(-3, 3)$

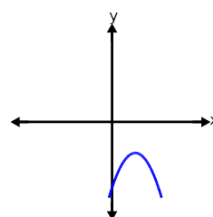
C

 $(3, -3)$

D

 $(1, -3)$ **14**

What could the vertex of this function be?



A

 $(3, -4)$

B

 $(-3, -4)$

C

 $(3, 4)$

D

 $(-3, 4)$