

Journal: If $f(x) = a|x - h| + k$, then identify and explain what a, h, and k represent.

Sketch a graph and find the zeros and vertex of the following function.

$$f(x) = 2|x - 1| + 4$$

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The vertex form of a quadratic function is \_\_\_\_\_.

We represent the vertex by the point \_\_\_\_\_.

The axis of symmetry is represented by the equation \_\_\_\_\_.

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1. Graph $y = -\frac{1}{2}(x + 3)^2 + 4$

a =

h =

k =

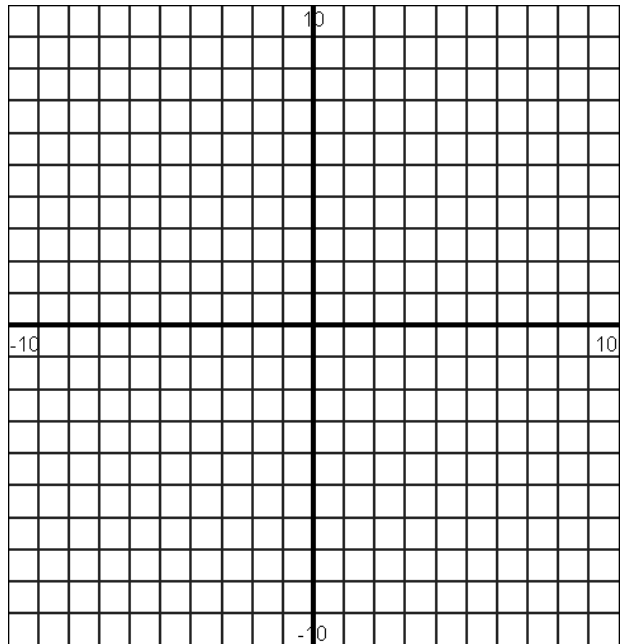
Vertex =

Axis of symmetry =

Two points =

Zero(s) =

Y-intercept =



2. Graph $y = 4(x - 1)^2 + 5$

a =

h =

k =

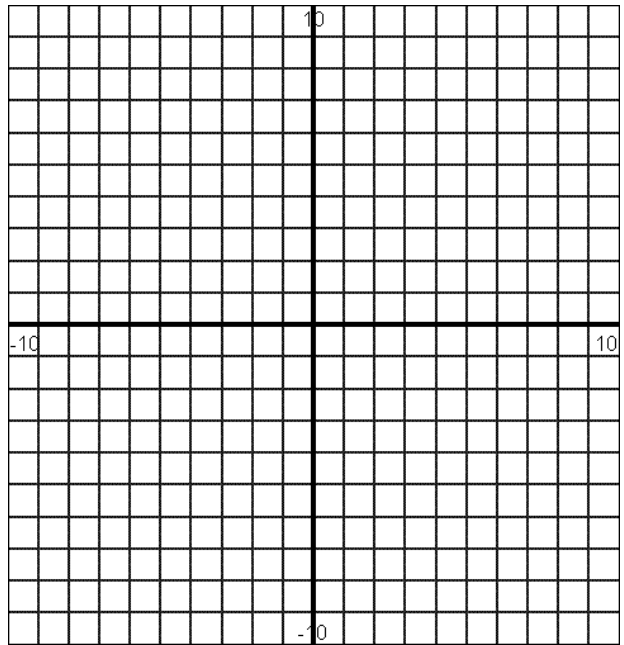
Vertex =

Axis of symmetry =

Two points =

Zero(s) =

Y-intercept =



3. Graph $y = 2(x + 1)^2 - 4$

a =

h =

k =

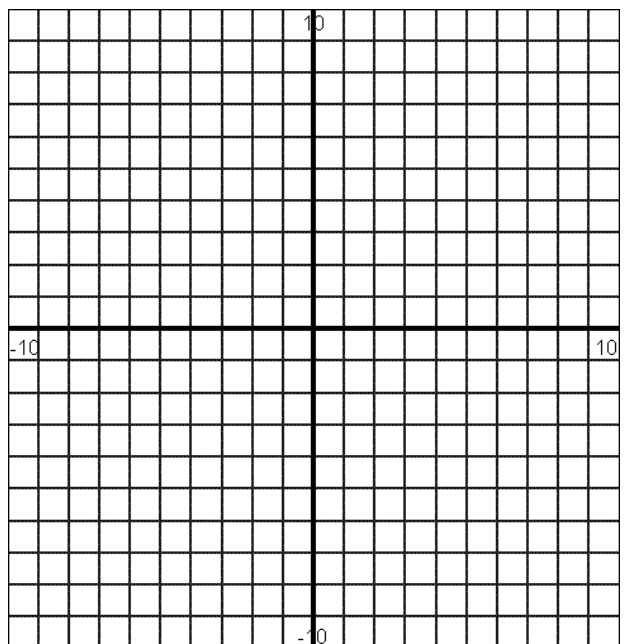
Vertex =

Axis of symmetry =

Two points =

Zero(s) =

Y-intercept =



4. Graph $y = -\frac{3}{5}(x - 4)^2 + 6$

a =

h =

k =

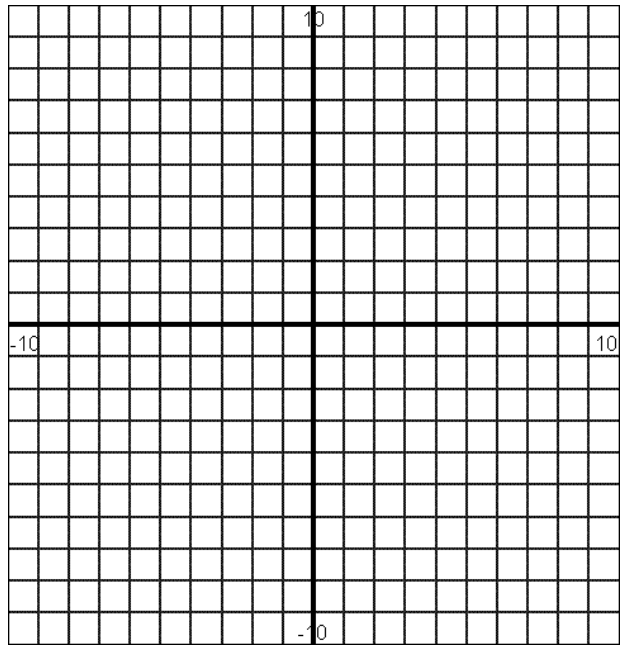
Vertex =

Axis of symmetry =

Two points =

Zero(s) =

Y-intercept =



5. Graph $y = -(x + 2)^2 - 7$

a =

h =

k =

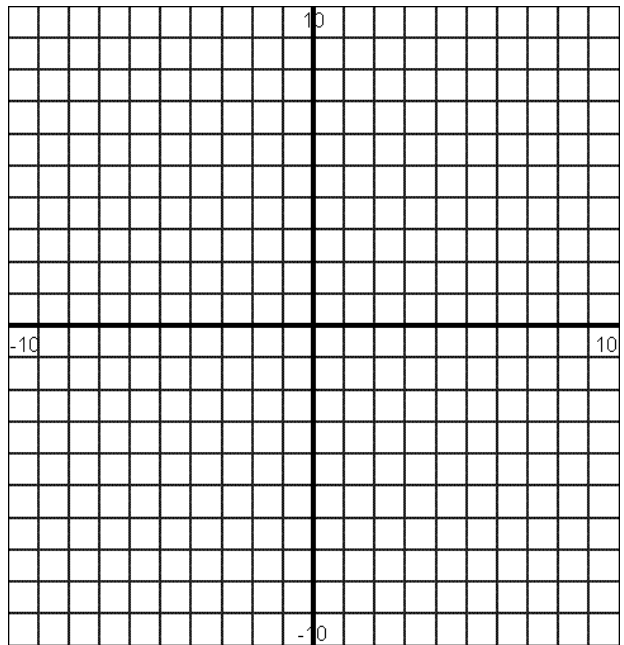
Vertex =

Axis of symmetry =

Two points =

Zero(s) =

Y-intercept =



6. Write a quadratic function with a vertex of $(3, -1)$ that goes through the point $(2, 1)$

7. Write a quadratic function with a vertex of $(-4, 2)$ that has a y-intercept of 10.

8. Write a quadratic function with a vertex of $(3, 5)$ that goes through the point $(6, -4)$.