

Graph $y = x^2 + 3$

Again, we can make an xy-chart on the left or plot points

Parent Fct

x y

-2 4

-1 1

0 0

1 1

2 4

$y = x^2 + 3$

x y+3

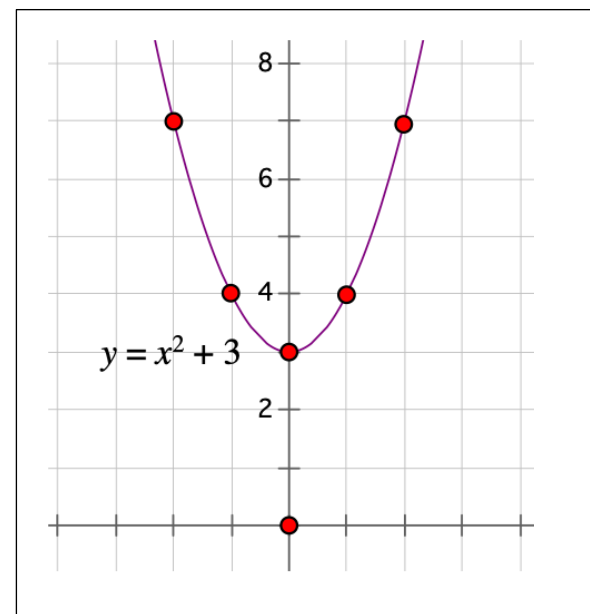
-2 7

-1 4

0 3

1 4

2 7



Graph $y = (x - 2)^2$

By making an xy-chart, we can plot points.

Parent Fct

x y

-2 4

-1 1

0 0

1 1

2 4

$y = (x-2)^2$

x y

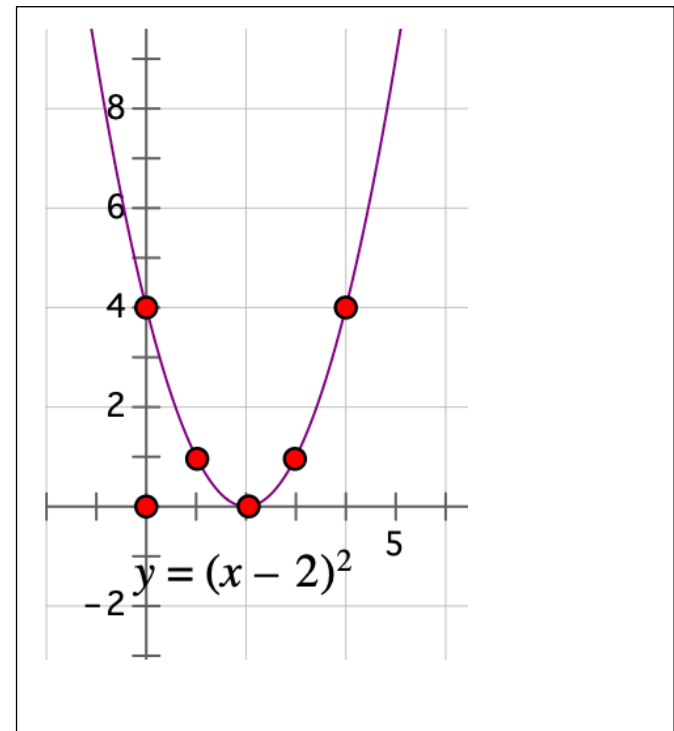
0 4

1 1

2 0

3 1

4 4



Here's what we need to recognize:

$y = a(x - h)^2 + k$ is a parabola in Vertex Form

1. The graph of an equation with only one variable squared is a parabola
2. The vertex can be found using translations from the parent function, $y = x^2$, with vertex $(0,0)$, by moving the graph vertically using k and horizontally using h . The new vertex is at (h, k)
3. The graph is symmetric with respect to the line $x = h$. The line passes through the vertex and is called axis or line of symmetry.

$y = a(x - h)^2 + k$, has a vertex at (h, k) .

Recognizing the equation as a parabola and finding the vertex makes graphing a lot easier.

Sketch the graph $y = (x + 1)^2 + 3$

