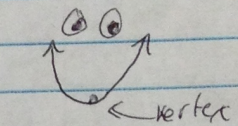


12/4/12 Graphing $y - k = a(x - h)^2$

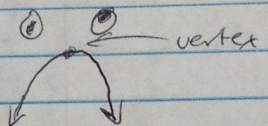
Components of $y - k = a(x - h)^2$ ← the graph is a parabola

Vertex: (h, k) ← you just take the opposite of what appears in the equation.

If a is $(+)$, then the parabola opens ↑



If a is $(-)$, then the parabola opens ↓



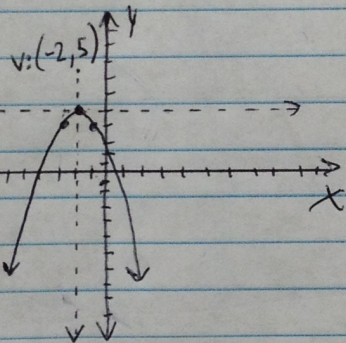
Graph the parabola

Example ①

$y - 5 = -(x + 2)^2$

Vertex: $(-2, 5)$

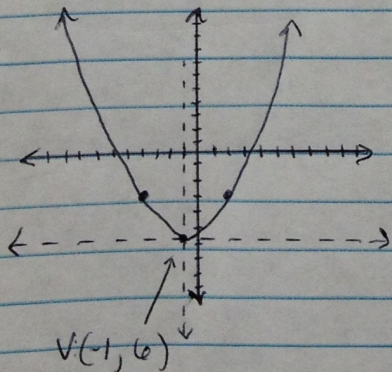
- ① plot vertex
- ② make new coord. plane from vertex
- ③ fill out t-chart from helper equ.
- ④ plot points on new coord. plane, draw parabola.



helper equ. → $y = -x^2$
(ignore h and k)

x	y
-1	-1
0	0
1	-1

② $y + 6 = \frac{1}{3}(x + 1)^2$ v: $(-1, -6)$



$y = \frac{1}{3}x^2$

x	y
-3	3
0	0
3	3