

Writing the Equation

Find the Equation of the following parabola

vertex =

(h, k)

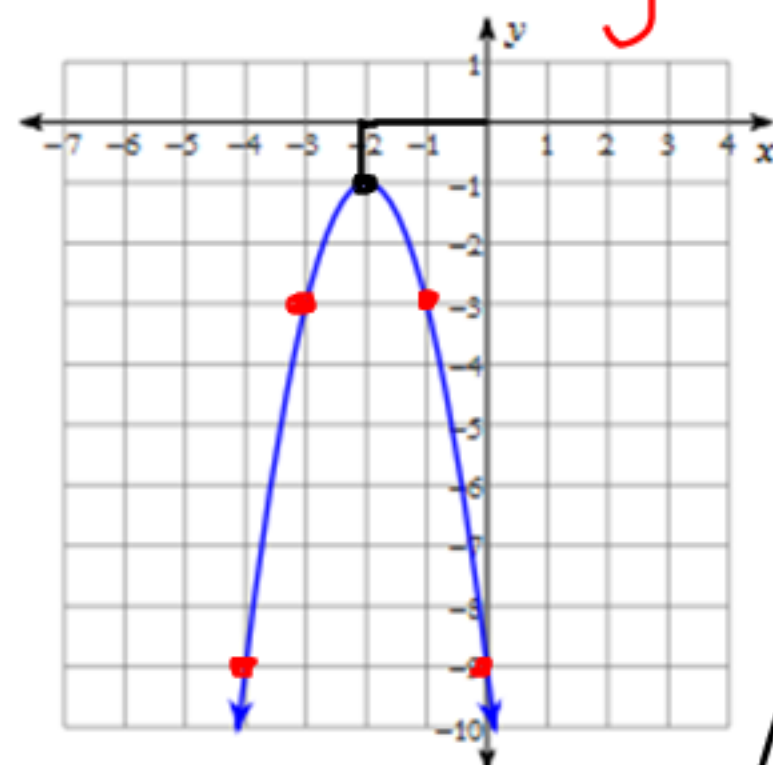
$a \rightarrow$ use the step pattern

vertex = $(-2, -1)$

$a = -2$

$$y = a(x - h)^2 + k$$

*h changes signs

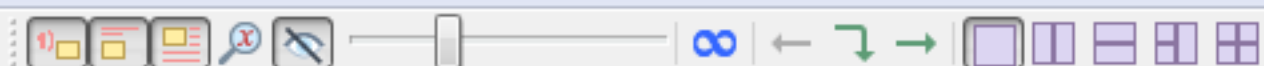


over 1 up 1
over 1 up 3
over 1 up 5

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

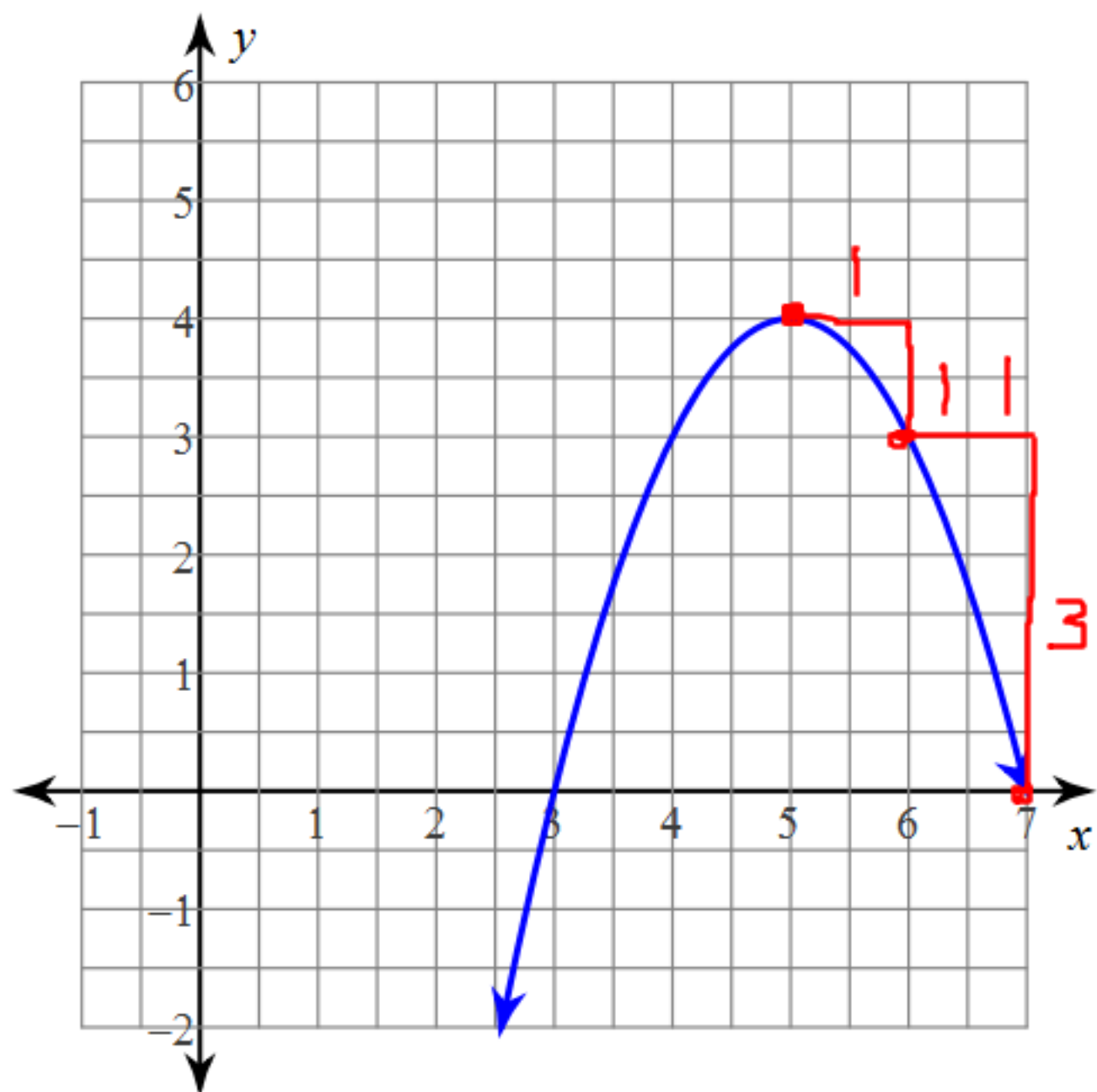
over 1 down 2
over 1 down 6

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



Use the information provided to write the vertex form equation of each parabola.

1) $y = a(x-h)^2 + k$

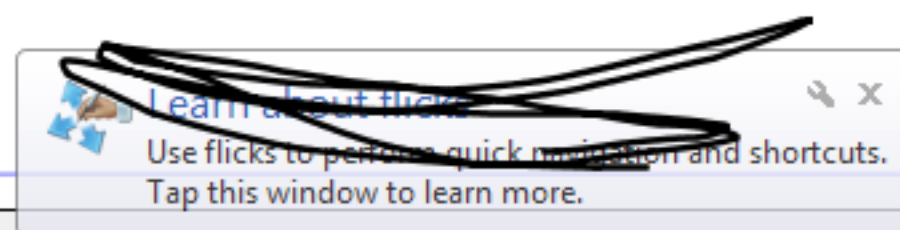


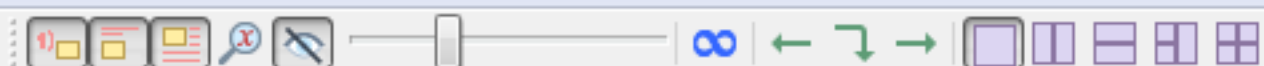
vertex = (5, 4)

over 1, down 1
over 2, down 4

$a = -1$

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

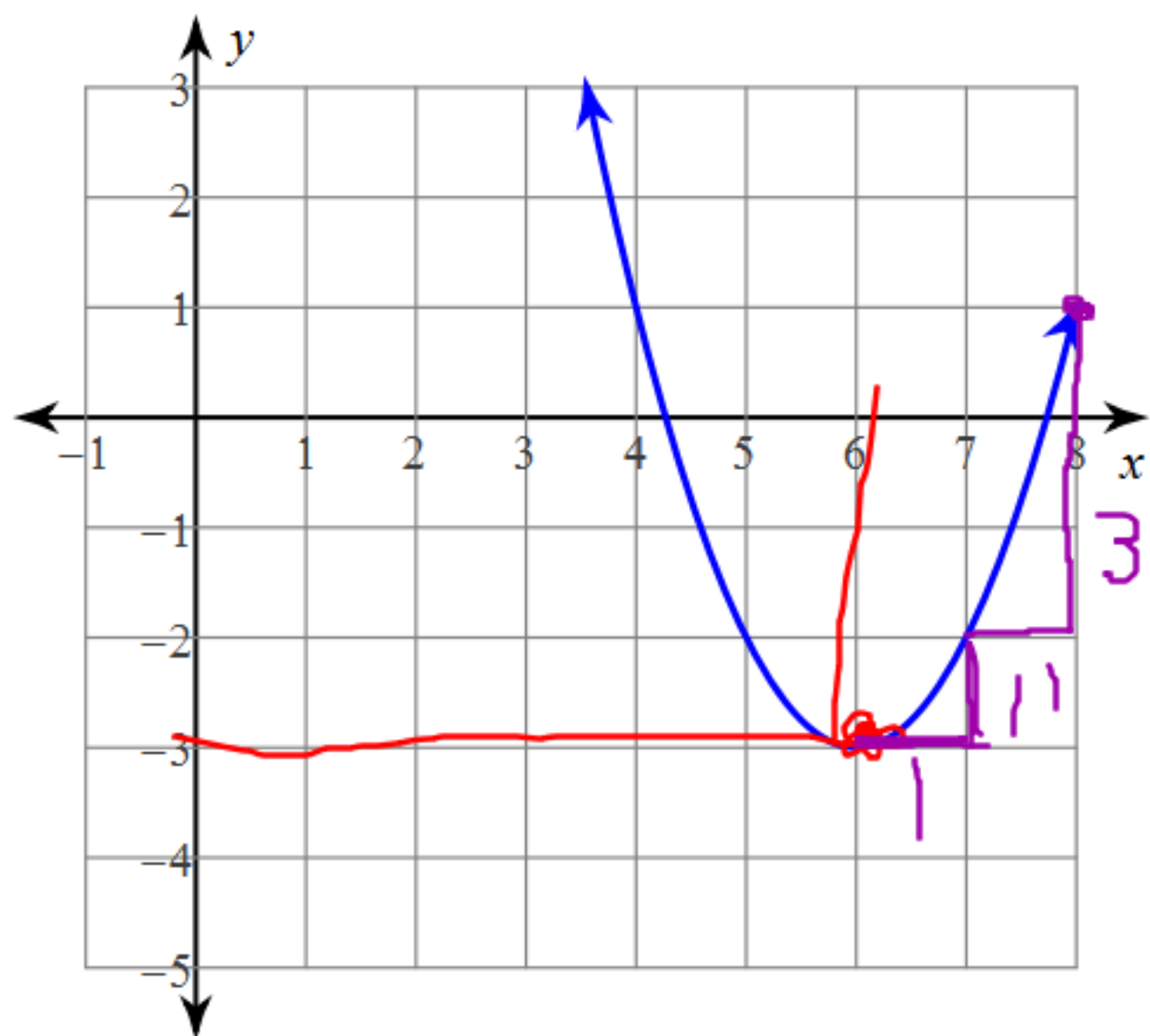




Use the information provided to write the vertex form equation of each parabola.

$$y = a(x-h)^2 + k$$

3)



$$\text{vertex } (6, -3)$$

$$a = 1$$

$$y = 1(x-6)^2 - 3$$