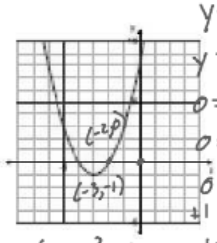
Write the equation of each parabola in vertex form.

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

$V\ (h,k)$



$y = a(x+3)^2 - 1$

$0 = a(-2+3)^2 - 1$

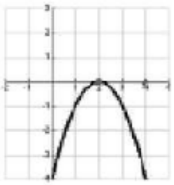
$0 = a(1)^2 - 1$

$0 = a - 1$

$+1 \quad +1$

$1 = a$

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



$V(2,0)$

$y = a(x-2)^2 + 0$

$-4 = a(0-2)^2$

$-4 = 4a$

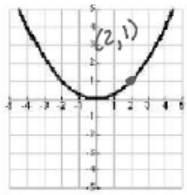
$a = -1$

$(0,-4)$

$x \quad y$

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

7.



$y = a(x-0)^2 + 0$

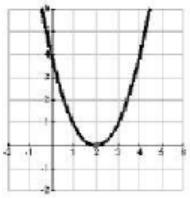
$1 = a(2-0)^2$

$\frac{1}{4} = \frac{4a}{4}$

$a = \frac{1}{4}$

$y = \frac{1}{4}x^2$

9.



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

$1 = a(1-2)^2$

$1 = a(1)$

$a = 1$

$y = (x-2)^2$

Step 1 → find vertex and plug in for (h,k)

Step 2 → find an easy point on the graph

Step 3 → Plug easy point in for (x,y)

Step 4 → Solve for a

Step 5 → Rewrite equation with a, h, k