

Name: ANSWERS

Date: _____

1. State the transformations to each equation.

a. $y = 3(2(x-1))^2 + 9$

V.S. Factor 3

H.C. Factor $\frac{1}{2}$

H.T. Right 1

V.T. Up 9

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

H.C. Factor $\frac{1}{3}$

Reflection in the y-axis

H.T. Left 1

V.T. Up 2

2. Determine the coordinates of the point (4,2) that has undergone the transformations found in the equation $y = -2(4(x+3))^2 + 1$.

$$\begin{aligned}
 (x, y) &\rightarrow \left(\frac{x}{4} - 3, -2y + 1\right) \\
 &= \left(\frac{4}{4} - 3, -2(2) + 1\right) \\
 &= (1 - 3, -4 + 1) \\
 &= (-2, -3)
 \end{aligned}$$

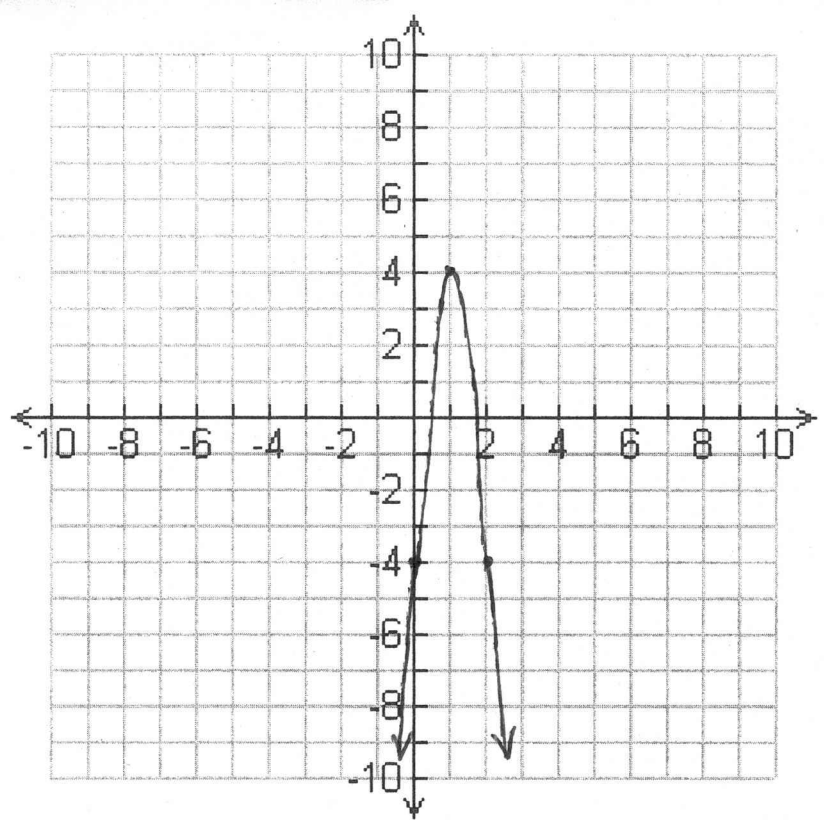
3. Determine the coordinates of the point (-2,3) that has undergone the transformations found in the equation $y = \frac{1}{3}(-x+4)^2 - 5$.

$$\begin{aligned}
 (x, y) &\rightarrow \left(\frac{x}{-1} - 4, \frac{1}{3}y - 5\right) \\
 &= \left(\frac{-2}{-1} - 4, \frac{1}{3}(3) - 5\right) \\
 &= (2 - 4, 1 - 5) \\
 &= (-2, -4)
 \end{aligned}$$

4. Graph the following function:

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

x	y
-3	-124
-1	-28
0	-4
1	4
3	-28



5. Graph the following function:

$$y = \left(-\frac{1}{3}(x + 2)\right)^2 - 3$$

x	y
-5	-2
-3	$-2\frac{8}{9}$
-1	$-2\frac{8}{9}$
1	-2

