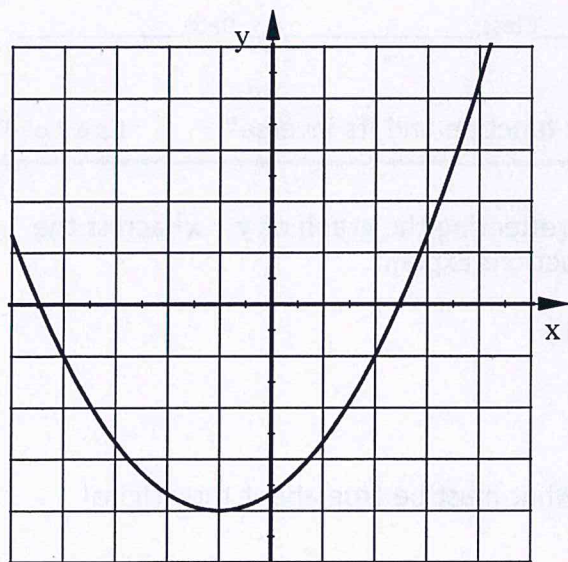
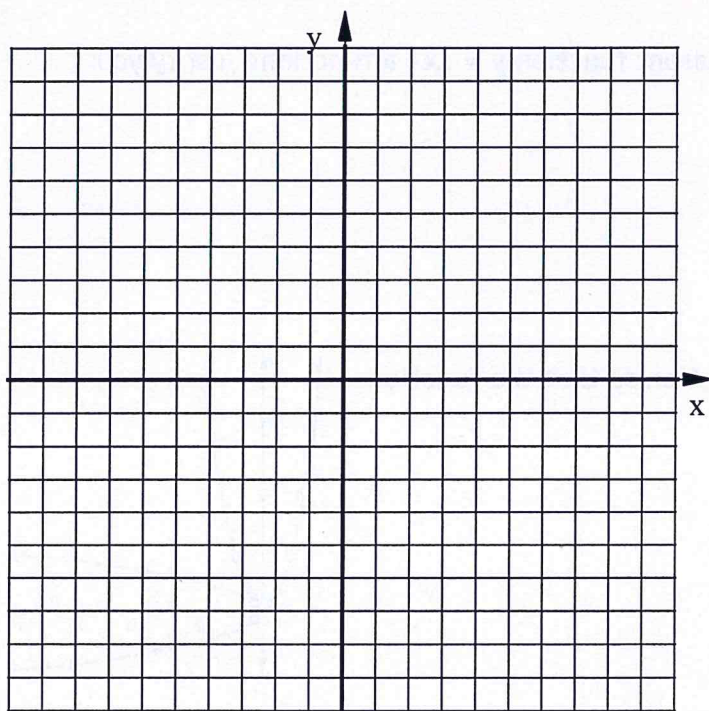


1. Write the equation of this quadratic in Vertex Form: $y = a(x - h)^2 + k$



2. Graph this quadratic using the 5 main points $y = -4(x - 3)^2 + 8$



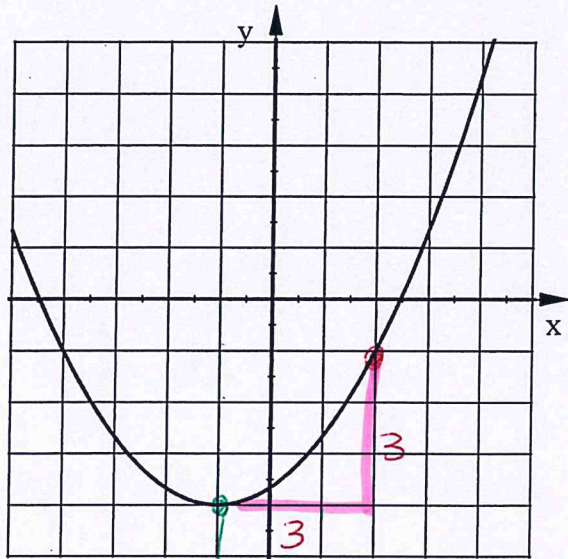
3. $f(x)$ is the original function and $g(x)$ was created by performing transformations on $f(x)$. Describe all these transformations.

$$f(x) = -2(x - 2)^2 + 3$$

$$g(x) = (x + 4)^2 - 3$$

ANSWERS

1. Write the equation of this quadratic in Vertex Form: $y = a(x-h)^2 + k$

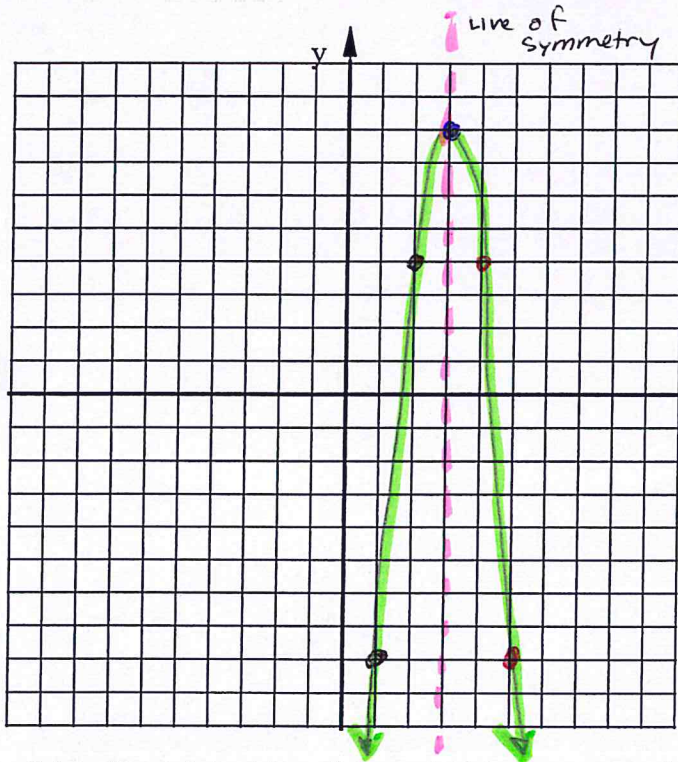


$(-1, -4)$ $h = -1$
 $k = -4$

THIS FUNCTION: $\frac{1}{3}$
Parent Function: $\frac{1}{3}$ $a = \frac{3}{9} = \frac{1}{3}$
• opens up a is pos

$$y = \frac{1}{3}(x+1)^2 - 4$$

2. Graph this quadratic using the 5 main points $y = -4(x-3)^2 + 8$



3 RIGHT 8 up Vertex (3, 8)

4x taller upside down

1st PT $\frac{1}{1} \times (-4) \rightarrow \frac{1}{1} - 4$

2nd PT $\frac{4}{2} \times (-4) \rightarrow \frac{2}{2} - 16$

3. $f(x)$ is the original function and $g(x)$ was created by performing transformations on $f(x)$. Describe all these transformations.

$$f(x) = -2(x-2)^2 + 3$$

$$g(x) = \frac{1}{2}(x+4)^2 - 3$$

$$+3 - 6 = -3$$

$$(-2)\left(-\frac{1}{2}\right) = 1$$

$$-2 + 6 = 4$$

$$x - 2 - -6 = x + 4$$

- Vertical Shrink, $\frac{1}{2}$ as tall
- X-axis Reflection (upside down)
- move 6 units Left
- move 6 units Down