

WANT: Transformation (3)



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Given:  $f(x) = x^2$  find  $g(x)$  if the function is ...

(1) Translated 2 units up

$$g(x) = (x + 2)^2$$

The reflected over the y-axis

$$g(x) = -x^2$$

It is stretched by stretching by 2

$$g(x) = 2(x)^2$$

It is horizontally stretched by 2

$$g(x) = f\left(\frac{1}{2}x\right)$$

$$g(x) = \left(\frac{1}{2}x\right)^2$$

Given:  $f(x) = x^2$  find  $g(x)$  if the function is ...

(2) Translated 3 units down and 2 units right

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

It is reflected over the x-axis

$$g(x) = -\sqrt{x}$$

It is stretched by stretching by 4

$$g(x) = 4\sqrt{x}$$

It is horizontally stretched by 1/4

$$g(x) = f\left(\frac{1}{4}x\right)$$

It is stretched by stretching by 1/4

$$g(x) = \sqrt{\frac{1}{4}x}$$

(3) Translated 3 units up and right

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

It is reflected over the y-axis

$$g(x) = (-x)^2$$

It is horizontally stretched by 2

$$g(x) = 0.5(x)^2$$

It is horizontally stretched by 1/2

$$g(x) = f\left(\frac{1}{2}x\right)$$

$$g(x) = \left(\frac{1}{2}x\right)^2$$

(4) Translated 5 units to the left and 3 units up

$$g(x) = (x + 5)^2 + 3$$

It is reflected over the y-axis

$$g(x) = \sqrt{-x}$$

It is stretched by stretching by 1/2

$$g(x) = \frac{1}{2}\sqrt{x}$$

It is horizontally stretched by 1/2

$$g(x) = \sqrt{\frac{1}{2}x}$$

(5) Translated 1 unit to the right and 2 units down

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