



Write transformed functions using mapping notation

1

Which function $g(x)$ shows this transformation of $f(x)$?

Shift down : 2

A

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

B

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

2

Which function $g(x)$ shows these transformations of $f(x)$?

Reflect in X – Axis

Vertical stretch : 5

A

$$g(x) = -5f(x)$$

B

$$g(x) = 5f(-x)$$

C

$$g(x) = -f(5x)$$

3

Which function $g(x)$ shows this transformation of $f(x)$?

Horizontal compression : t

A

$$g(x) = t \cdot f(x)$$
$$t < 1$$

B

$$g(x) = f(t \cdot x)$$
$$t < 1$$

C

$$g(x) = f(t \cdot x)$$
$$t > 1$$

4

Which function $g(x)$ shows these transformations of $f(x)$?

Horizontal stretch : r

Shift down : m

A

$$g(x) = f(r \cdot x) - m$$
$$r < 1$$

B

$$g(x) = f(r \cdot x) + m$$
$$r < 1$$

C

$$g(x) = f(r \cdot x) - m$$
$$r > 1$$



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5

If the vertex of $f(x)$ is (a,b) , what is the vertex of $g(x)$?

$$g(x) = f(m \cdot x)$$

A

$$(a, m \cdot b)$$

B

$$\left(\frac{a}{m}, b\right)$$

6

How is the graph of f transformed to produce g ?

$$g(x) = a f(b(x-h)) + k$$

$$(x, y) \mapsto \left(\frac{x}{b} + h, ay + k\right)$$

$$g(x) = f(x+3)$$

A reflect over the y-axis

B shift left by 3

C reflect over the x-axis

D shift right by 3

7

If the vertex of $f(x)$ is (a,b) , what is the vertex of $g(x)$?

$$g(x) = -f(0.5x)$$

A

$$\left(-\frac{a}{0.5}, b\right)$$

B

$$(a, -0.5 \cdot b)$$

C

$$\left(\frac{a}{0.5}, -b\right)$$

8

If the vertex of $f(x)$ is (a,b) , what is the vertex of $g(x)$?

$$g(x) = m \cdot f(x) - w$$

A

$$(a, m \cdot b + w)$$

B

$$\left(\frac{a}{m}, b - w\right)$$

C

$$(a, m \cdot b - w)$$

9

Using the mapping notation, how does this variable value transform the graph of f ?

$$g(x) = a f(b(x-h)) + k$$

$$(x, y) \mapsto \left(\frac{x}{b} + h, ay + k\right)$$

$$k = 3$$

A horizontally stretch by a factor of 3

B shift right by 3

C shift down by 3

D shift up by 3

10

How is the graph of f transformed to produce g ?

$$g(x) = a f(b(x-h)) + k$$

$$(x, y) \mapsto \left(\frac{x}{b} + h, ay + k\right)$$

$$g(x) = f(x-3) + 4$$

A shift right by 3 and reflect over the x-axis

B shift right by 3 and shift up by 4

C shift down by 3 and shift up by 4

D reflect over the y-axis and horizontally compress by a factor of 4