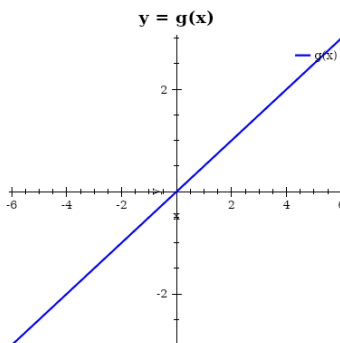




Apply vertical and horizontal stretches and compressions

**1**What transformation of $f(x)$ does this graph show?

A

$$f(x) = x$$

Horizontal compression : 0.5

B

$$f(x) = x$$

Vertical compression : 0.5

2Which function $g(x)$ shows this transformation of $f(x)$?

Vertical compression : 0.2

A

$$g(x) = f(0.2x)$$

B

$$g(x) = 0.2f(x)$$

4If the vertex of $f(x)$ is (a,b) , what is the vertex of $g(x)$?

$$g(x) = f(0.33x)$$

A

$$\left(\frac{a}{0.33}, b\right)$$

B

$$(a, 0.33 \cdot b)$$

3What does this transformation produce in $f(x)$?

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

$$p > 1$$

A

Vertical compression : p

B

Vertical stretch : p

C

Horizontal stretch : p



Apply vertical and horizontal stretches and compressions

5

If the vertex of $f(x)$ is (a,b) , which function $g(x)$ would have this vertex?

$$(a, 5 \cdot b)$$

A

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

B

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

6

If the vertex of $f(x)$ is (a,b) , which function $g(x)$ would have this vertex?

$$(a - r, b)$$

A

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

B

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

7

If the range of $f(x)$ is $[a,b]$, which function $g(x)$ would have this range?

$$[4 \cdot a, 4 \cdot b]$$

A

$$g(x) = 4f(x)$$

B

$$g(x) = f(4x)$$

8

If the domain of $f(x)$ is $[a,b]$, which function $g(x)$ would have this domain?

$$\left[\frac{a}{n}, \frac{b}{n}\right]$$

A

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

B

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

9

How is the graph of f transformed to produce g ?

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

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

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

A shift left by 2

B shift up by 2

C shift down by 2

D horizontally compress by a factor of 2

10

Using the mapping notation, which variable and value produce this transformation?

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

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

horizontally compress by a factor of 4

A $k = -4$

B $k = 4$

C $b = 4$

D $a = 4$
11

Which function applies this transformation to f ?

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

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

horizontally compress by a factor of 2

A

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

B

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

12

If the range of $f(x)$ is $[a,b]$, what is the range of $g(x)$?

$$g(x) = 0.25f(x)$$

A

$$[0.25 \cdot a, 0.25 \cdot b]$$

B

$$[a, b]$$