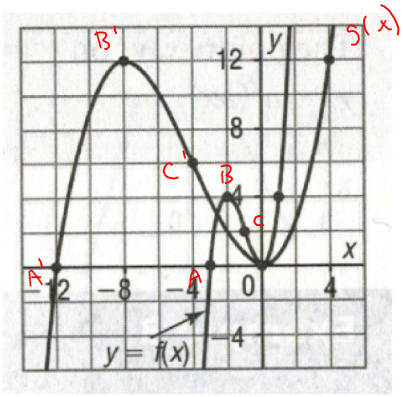
Writing an Equation for the Function

Ex: The graph of $y = f(x)$ and its image after a vertical and/or horizontal stretch are shown. Write an equation of the image graph in terms of the function *f*.



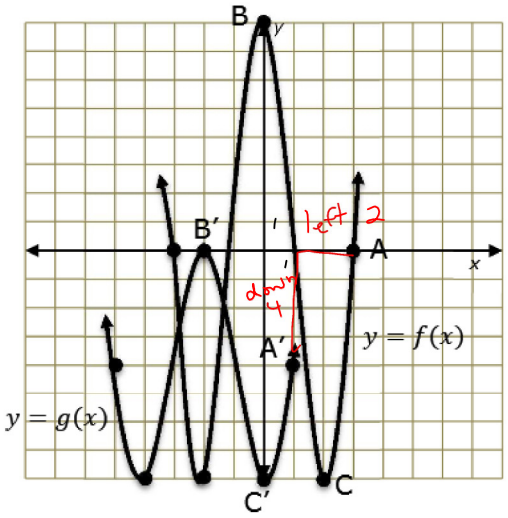
f(x)	g(x)
A (-3, 0)	A' (-12, 0)
B (-2, 4)	B' (-8, 12)
C (-1, 2)	C' (-4, 6)

y-coords mult by 3 → a = 3

x-coords mult by 4 → b = $\frac{1}{4}$

$\therefore y = 3f(\frac{1}{4}x)$

Ex: Write the equation of $g(x)$.



f(x)	x-int	g(x)	
A (3, 0)		A' (1, -4)	left 2 down 4
B (0, 8)	range 16	B' (-2, 0)	range of 8
C (2, -8)		C' (0, -8)	

a = $\frac{1}{2}$

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

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MC # 1, 2

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Practice Test
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