

Circle the correct option and give the function name.

1) Translated 1 unit down

$$f(x) = 4^x - 1$$

2) Reflected over the y-axis

$$f(x) = -(4^x)$$

$$f(x) = -4^x$$

3) Vertically stretched by 2

$$f(x) = 2(4^x)$$

4) Horizontally stretched by 2

$$f(x) = 4^{\frac{x}{2}}$$

5) Translated 1 unit to the left

$$f(x) = 4^{x+1}$$

6) Reflected over the x-axis

$$f(x) = 4^{1-x}$$

7) Vertically compressed by $\frac{1}{2}$

$$f(x) = \frac{1}{2}(4^x)$$

8) Horizontally compressed by $\frac{1}{2}$

$$f(x) = 4^{\frac{1}{2}x}$$

Circle the correct option and give the function name.

1) Translated 3 units down and vertically

$$f(x) = 4 \log_4(x-3) - 3$$

2) Reflected over the x-axis

$$f(x) = -4 \log_4 x$$

3) Vertically stretched by 4

$$f(x) = 4 + 4 \log_4 x$$

4) Horizontally stretched by 2

$$f(x) = 4 \log_4(2^x)$$

5) Horizontally compressed by $\frac{1}{2}$

$$f(x) = 4 \log_4\left(\frac{x}{2}\right)$$

6) Translated 3 units to the left and 3 units up

$$f(x) = 4 + \log_4(x+3) + 3$$

7) Vertically stretched by 4

$$f(x) = 4 + \log_4(-x)$$

8) Vertically compressed by $\frac{1}{4}$

$$f(x) = \frac{1}{4} + 4 \log_4 x$$

9) Horizontally compressed by $\frac{1}{2}$

$$f(x) = 4 \log_4(2^x)$$

10) Translated 3 units up and 3 units down

$$f(x) = 4 \log_4(x-3) - 3$$