

Circle the correct partial differential equation for the function below.

1) Transformed 1 unit down

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

2) Reflected over the x-axis

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

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

3) Vertically stretched by 4

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

4) Vertically compressed by 4

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

5) Transformed 1 unit to the left

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

6) Reflected over the y-axis

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

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

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

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

$$f(x) = \sqrt[4]{(4^x)}$$

Circle the correct partial differential equation for the function below.

1) Transformed 3 units down and 1 unit right

$$f(x) = 4 \log_4(x-3) - 1$$

2) Reflected over the x-axis

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

3) Vertically stretched by 4

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

4) Vertically compressed by 4

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

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

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

6) Transformed 3 units to the left and 1 unit up

$$f(x) = 4 \log_4(x+3) + 1$$

7) Vertically stretched by 4

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

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

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

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

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

10) Transformed 3 units to the left and 1 unit down

$$f(x) = 4 \log_4(x-3) - 1$$