

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 1

$$f(x) = 2 (4^{-x})$$

4) Vertically stretched by 2

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

5) Transformed 1 unit to the left

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

6) Reflected over the y-axis

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

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

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

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

$$f(x) = \frac{1}{2} (8^{-x})$$

Circle the correct partial differential equation for the function below.

1) Transformed 3 units down and 1 unit right

$$f(x) = 4 \log_2 (x+3) - 3$$

2) Reflected over the x-axis

$$f(x) = -4 \log_2 x$$

3) Vertically stretched by 4

$$f(x) = 4 \log_2 x$$

4) Vertically stretched by 2

$$f(x) = 2 \log_2 (2^{-x})$$

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

$$f(x) = \frac{1}{2} \log_2 \left(\frac{1}{2} x \right)$$

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

$$f(x) = 4 \log_2 (x+3) + 1$$

7) Vertically stretched by 4

$$f(x) = 4 \log_2 (-x)$$

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

$$f(x) = \frac{1}{2} \log_2 x$$

9) Vertically stretched by $\frac{1}{2}$

$$f(x) = \frac{1}{2} \log_2 (2^{-x})$$

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

$$f(x) = 4 \log_2 (x+3) - 1$$