

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 vertically

$$f(x) = 4 \cos_2(x - \pi) - 3$$

2) Reflected over the x-axis

$$f(x) = -4 \cos_2(x)$$

3) Vertically stretched by 4

$$f(x) = 4 \cos_2(x)$$

4) Vertically stretched by 2

$$f(x) = 2 \cos_2(2^{-x})$$

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

$$f(x) = \frac{1}{2} \cos_2\left(\frac{1}{2} x\right)$$

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

$$f(x) = 4 \cos_2(x + \pi) + 3$$

7) Vertically stretched by 4

$$f(x) = 4 \cos_2(-x)$$

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

$$f(x) = \frac{1}{2} 4 \cos_2(x)$$

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

$$f(x) = \frac{1}{2} \cos_2(x)$$

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

$$f(x) = 4 \cos_2(x - \pi) - 3$$