

Circle the correct partial differential equation for the function below.

1) Transformed 1 into 2 only

$$f(x,y) = y^x - 2$$

2) reflected over the x-axis

$$f(x,y) = -(y^x)$$

$$f(x,y) = -y^x$$

3) vertically stretched by 2

$$f(x,y) = 2(y^x)$$

4) horizontally stretched by 2

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

5) Transformed 1 into 1 to the left

$$f(x,y) = y^{2x-1}$$

6) reflected over the y-axis

$$f(x,y) = y^{x^2}$$

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

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

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

$$f(x,y) = y^{\sqrt{2}x}$$

Circle the correct partial differential equation for the function below.

1) Transformed 1 into 2 and 3 vertically

$$f(x,y) = 4 \cos y (x^2 - 2) = 3$$

2) reflected over the x-axis

$$f(x,y) = -4 \cos y x^2$$

3) vertically stretched by 4

$$f(x,y) = 4 \cos y x^2$$

4) vertically compressed by 2

$$f(x,y) = 2 \cos y (2x^2)$$

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

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

6) Transformed 1 into 1 to the left and 2 vertically

$$f(x,y) = 4 \cos y x^2 (x+1) = 5$$

7) stretched vertically 4 units

$$f(x,y) = 4 \cos y x^2 (-x^2)$$

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

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

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

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

10) stretched 1 unit left and 2 units down

$$f(x,y) = 4 \cos y (x^2 - 1) = 2$$