

Given $f(x) = y^{x^2}$ find $g(x)$ where the derivative is....

(1) Translated 1 unit down

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

(2) reflected over the x-axis

$$g(x) = -(y^{x^2})$$

(3) vertically stretched by 1

$$g(x) = 1(y^{x^2})$$

(4) vertically compressed by 1

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

(5) translated 1 unit up to the left

$$g(x) = y^{(x+1)^2}$$

(6) reflected over the y-axis

$$g(x) = y^{(-x)^2}$$

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

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

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

$$g(x) = \sqrt{\frac{1}{2}x^2}$$

where $f(x) = \log_e x$ find $g(x)$ where the function is....

(1) Translated 5 units down and vertically

$$g(x) = 5 \log_e (x - 5) + 5$$

(2) reflected over the x-axis

$$g(x) = -5 \log_e x^{25}$$

(3) vertically stretched by 5

$$g(x) = 5 \log_e x^{25}$$

(4) vertically compressed by 2

$$g(x) = 2 \log_e (2^{25} x)$$

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

$$g(x) = 2 \log_e (\frac{1}{2} x)$$

(6) Translated 5 units to the left and 5 units up

$$g(x) = 5 \log_e x^{25} (x + 5) + 5$$

(7) vertically stretched 5 units

$$g(x) = 5 \log_e x^{25} (-x)$$

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

$$g(x) = \frac{1}{2} \log_e x^{25}$$

(9) Vertically compressed by $\frac{1}{2}$

$$g(x) = 2 \log_e (2^{25} x)$$

(10) translated 5 units to the left and 5 units down

$$g(x) = 5 \log_e (x - 5) + 5$$