Universidad Mariano Gálvez de Guatemala
Boca del Monte

Ingeniería en Sistemas. Ciclo II, “c”
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PRECALCULO
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$f(y) = 6y + 8$

$$f'(y) = \frac{d}{dy}(6y+8)$$

$$f'(y) = \frac{d}{dy}(y) + \frac{d}{dy}(8)$$

$$f'(y) = 6 + 8$$

$$\rightarrow f'(y) = 6$$

$$f(y) = \frac{2y-3}{4}$$

$$f'(y) = \frac{d}{dy}\left(\frac{2y-3}{4}\right)$$

$$f'(y) = \frac{1}{4} \cdot \frac{d}{dy}(2y-3)$$

$$f'(y) = \frac{1}{4}\left(\frac{d}{dy}(2y) - \frac{d}{dy}(3)\right)$$

$$f'(y) = \frac{1}{4}(2)$$

$$\rightarrow f'(y) = \frac{1}{2}$$

$$f(y) = \frac{1}{2y-1}$$

$$f'(y) = \frac{d}{dy}\left(\frac{1}{2y-1}\right)$$

$$f'(y) = -1\left(\frac{d/dy\,(2y-1)}{(2y-1)^2}\right)$$

$$f'(y) = -1\left(\frac{d/dy\,(2y) - d/dy\,(1)}{(2y-1)^2}\right)$$

$$f'(y) = -1\left(\frac{2-0}{(2y-1)^2}\right)$$

$$f'(y) = -1\left(\frac{2}{(2y-1)^2}\right)$$

$$\rightarrow f'(y) = -\frac{2}{(2y-1)^2}$$

$(f+g)(x)$

$(f+g)(x) = f(x) + g(x)$

$(f+g)(x) = 1/x + x^2 + 2x$

$(f+g)(x) = \frac{1 + x^3 + 2x^2}{x}$

$(f+g)(x) = \frac{x^3 + 2x^2 + 1}{x}$

$(f \cdot g)(x)$

$(f \cdot g)(x) = f(x)\, g(x)$

$(f \cdot g)(x) = \frac{1}{x}(x^2 + 2x)$

$(f \cdot g)(x) = \frac{1}{x}(x)(x+2)$

$(f \cdot g)(x) = x + 2$

$(f/g)(x)$

$(f/g)(x) = (f(x)/g(x))$

$(f/g)(x) = 1/x \,/\, x^2 + 2x$

$x^2 + 2x = 0$

$x_1 = -2, \; x_2 = 0$

$(f/g)(x) = 1/x \,/\, x^2 + 2x, \; x \neq -2, \; x \neq 0$

$(f/g)(x) = 1/x \,/\, 2 + 2x, \; x \neq -2, \; x \neq 0$

$\frac{1}{x^3 x^{-2}} \neq 0$

$x^{-2} \neq 0$

$(f/g)(x)$

$(g \circ f)(x)$

$(g \circ f)(x) = g(f(x))$

$(g \circ f)(x) = g(1/x)$

$g(1/x) = (1/x)^2 + 2(1/x)$

$(g \circ f)(x) = (1/x)^2 + 2(1/x)$

$(g \cdot f)(x) = 1 + 2x \,/\, x^2$