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Materia: calculo

Semestre : 4

Nombre de la Licenciatura : Bachillerato en Enfermería

PROBLEMARIO

1.- $Y = 2X^3 - 3X + 9$

$$y = 2x^3 - 3x + 9$$

$$y = \frac{d}{dx}(2x^3) - \frac{d}{dx}(3x) + \frac{d}{dx}(9)$$

$$y_1 = 2 \frac{d}{dx}(x^3) - 3 \frac{d}{dx}(x)$$

$$y_1 = 6x^2 - 3$$

$$y = 4/x^2 = 4 \frac{d}{dx} 1/x^2 = 4 \frac{d}{dx} x^{-2} = -8$$

$$x^{-3}$$

2.- $Y = 4 / X^2$

$$-8 / x^3$$

3.- $Y = 5/4 + X^2$

$$y = 5/4 + x^2$$

$$y_1 = \frac{d}{dx}(5/4) + \frac{d}{dx}(x^2)$$

$$y_1 = 2x$$

PROBLEMARIO

4.- $Y = X + 2/X$

$$x + 2/x$$

$$y' = \frac{d}{dx}(x) + 2 \frac{d}{dx}\left(\frac{1}{x}\right)$$

$$1 + 2 \frac{d}{dx}(x^{-1})$$

$$1 + 2x^{-2}$$

$$1 + 2/x^2$$

$$(a^2 - bx)^2 (a - bx)$$

$$(a^2 + abx$$

5.- $Y = (a - bx)^2$

$$-abx + b^2x^2$$

$$\underline{a^2 - 2abx + b^2x^2}$$

$$y = a^2 - 2xbx + b^2x^2$$

$$\frac{d}{dx}(a^2 - 2xbx + b^2x^2)$$

$$a^2 / dx \rightarrow 0 \quad 2xbx / dx \rightarrow 0 \quad + b^2x^2 / dx \rightarrow 0$$

$$0 - 2b$$

6.- $Y = 2/X^2 + 4$

$$y = 2(x^2 + 4)^{-1}$$

$$\frac{d}{dx} = 2(-1)(x^2 + 4)^{-2}(2x) = -4x / (x^2 + 4)^2$$

$$\frac{d}{dx} = -4x / (x^2 + 4)^2$$

PROBLEMARIO

7.- $Y = (1 + 2X)^2$

$$y = (1 + 2x)^2$$

$$2(1 + 2x)$$

$$2$$

$$d/dx = 2(1 + 2x)^2 = 4(1 + 2x)$$

8.- $Y = 2 - X / X - 2$

$$y = 2 - x / x - 2$$

$$d/dx = v * u - u * v / v^2$$

- $u = 2 - x \quad u' = -1$

- $v = x - 2 \quad v' = 1$

$$d/dx = (x - 2)(-1) - (2 - x)(1) / (x - 2)^2$$

$$-(x - 2) - (2 - x) = -x + 2 - 2 + x = 0$$

$$d/dx = 0$$