UDS

Mi Universidad

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***Materia: Calculo***

***Carrera: Bachillerato en enfermería general***

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

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

$$Y' = 2\frac{d}{dx}(X^3) - 3\frac{d}{dx}(x)$$

$$Y' = 6X^2 - 3$$

$$Y = 3(2X^2 - 1)$$

2. $Y = 4/X^2 = \frac{4}{X^2} = 4\frac{d}{dx}\frac{1}{x^2} = 4\frac{d}{dx}x^{-2} = -8x^{-3}$

$$= \frac{-8}{x^3}$$

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

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

$$Y' = 2x$$

4. $Y = X + 2/X = X + 2X^{-1}$

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

$$1 \quad X\,2\frac{d}{dx}(x^{-1})$$

$$1 \quad X\,2\,x^{-2}$$

$$\boxed{1 + \frac{2}{x^2}}$$

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

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

$$Y = \overset{u}{a^2} - 2x\overset{v}{b}x + \overset{w}{b^2}x^2$$

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

$$\frac{a^2}{dx0} - \frac{2xbx}{dx0} + \frac{b^2x^2}{dx0}$$

$$0 - 2b$$

6. $Y = 2/x^2+4 = \frac{2}{x^2} = 2\frac{d}{dx}\frac{1}{x^2} = 2\frac{d}{dx}x^{-2} = -4$

$= Y = 2(x^2+4) - 2(2x) = -4x/(x2+4)2$

$d/dx = -4x/(x2+4)2$

7. $Y = (1+2x)2$

$Y = (1+2x)2$

$2(1+2x)$

$2$

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

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

$Y = 2-x/x-2$

$d/dx = v*u - u*v/v2$

$u = 2-x \quad u1 = -1$

$v = x-2 \quad v1 = -1$

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

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

$d/dx = 0$