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Nombre del tema: Problemario

Parcial: Unidad 4

Nombre de la Materia: Calculo

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Bachillerato Tecnológico en Enfermería General

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$$y = x^5 + 5x^4 - 10x^2 + 6$$
$$y' = \frac{d}{dx}(x^5) + 5 \frac{d}{dx}(x^4) - \frac{10 \frac{d}{dx}(x^2)}{dx} + \frac{d}{dx}(6)$$
$$= 5x^4 + 20x^3 - 20x$$

$$y = 3x^{1/2} - x^{3/2} + 2x^{-1/3}$$
$$y' = 3 \frac{d}{dx}(x^{1/2}) - \frac{d}{dx}(x^{3/2}) + \frac{d}{dx}(x^{-1/3})$$
$$y' = \frac{3}{4} x^{-1/2} - \frac{3}{2} x^{1/2} - \frac{2}{3} x^{-4/3}$$
$$y' = \frac{3}{2\sqrt{x}} - \frac{3}{2}\sqrt{x} - \frac{2}{3\sqrt[3]{x^4}}$$

$$y = \frac{1}{2x^3} + \frac{4}{\sqrt{x}} = \frac{1}{2} x^{-3} + 4x^{-1/2}$$
$$y' = \frac{1}{2} \frac{d}{dx}(x^{-3}) + 4 \frac{d}{dx}(x^{-1/2})$$
$$y' = -\frac{3}{2} x^{-4} - 2x^{-3/2}$$
$$y' = -\frac{3}{2x^4} - \frac{2}{\sqrt{x^3}}$$

$$y = \sqrt{2x} + 2\sqrt{x}$$

$$y = \sqrt{2} \sqrt{x} + 2\sqrt{x}$$

$$y' = \frac{\sqrt{2} \frac{d}{dx}(x^2)}{dx} + \frac{2 \frac{d}{dx}(x^{1/2})}{dx}$$

$$y' = \frac{\sqrt{2}}{2} x^{-1/2} + x^{1/2}$$

$$y' = \frac{\sqrt{2}}{2\sqrt{x}} + \frac{1}{\sqrt{x}} = \frac{1}{2} \sqrt{\frac{2}{x}} + \frac{1}{\sqrt{x}}$$

$$F(t) = \frac{2}{\sqrt{t}} + \frac{6}{\sqrt[3]{t}}$$

$$F'(t) = 2 t^{-1/2} + 6 t^{-1/3}$$

$$F'(t) = 2t^{-1/2} + 6t^{-1/3}$$

$$F'(t) = \frac{2}{\sqrt{t}} + \frac{6}{\sqrt[3]{t}}$$

$$y = (1 - 5x)^2$$

$$y' = 2(1 - 5x) \cdot \frac{d}{dx}(1 - 5x)$$

$$y' = -30(1 - 5x)$$

$$F(x) = (3x - x^3 + 1)^4$$

$$F(x) = (3x - x^3 + 1)^4$$

$$F'(x) = 4(3x - x^3 + 1) \cdot \frac{d}{dx}(3x - x^3 + 1)$$

$$F'(x) = 4(3x - x^3 + 1) \cdot (3 - 3x^2)$$

$$F'(x) = (12 - 12x^2)(3x - x^3 + 1)^3$$

$$y = (3 + 4x - x^2)^{-1/2}$$

$$y' = \frac{1}{2}(3 + 4x - x^2)^{-3/2} \cdot (-4 + 2x)$$

$$y' = \frac{4 - 2x}{2\sqrt{3 + 4x - x^2}}$$