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Materia: Calculo.

Actividad: Derivadas.

Grado: 4to Semestre.

Grupo: A.

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$$f(x) = 5 \quad \frac{d(5)}{dx} = 0 \quad \hat{f}(x) = 0 // \quad 1$$

$$f(x) = -2x \quad \frac{d(-2x)}{dx} = -2 \quad \hat{f}(x) = -2x // \quad 2$$

$$f(x) = -2x + 2 \quad \hat{f}(x) = (-2x) + \hat{f}(x) = (2) = 2 \\ \hat{f}(x) = 2x'' + 2'' = -2x // \quad 3$$

$$f(x) = -2x^2 - 5 \quad \hat{f}(x) = (-2x^2) - \hat{f}(x) = (6) = 6 \\ \hat{f}(x) = -4x - 5 = 4x // \quad 4$$

$$f(x) = 2x^4 + x^3 - x^2 + 4 \quad \frac{d(2x^4)}{dx} + \frac{d(x^3)}{dx} - \frac{d(x^2)}{dx} + \frac{d(4)}{dx} = 5 \\ \hat{f}(x) = 8x^3 + 3x^2 - 2x // \quad 5$$

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$$f(x) = \frac{x^2+2}{3} = \frac{(3) \frac{d(x^2+2)}{dx} - (x^2+2) \frac{d(3)}{dx}}{(3)^2} = \frac{(3)(2x) - (x^2+2)(3)}{(3)^2} = \frac{(6x - 3x^2 - 6)}{(3)^2} = \frac{6x^2 - 3x^2 - 6}{(3)^2} // \quad 6$$

$$f(x) = \frac{1}{3x^2} = \frac{d(1 \cdot x^{-2})}{3} = \frac{d(-2x^{-3})}{3} = \frac{d(-2)}{3x^3} // \quad 7$$

$$f(x) = \frac{x+1}{x-1} = \frac{(x-1) \frac{d(x+1)}{dx} - (x+1) \frac{d(x-1)}{dx}}{(x-1)^2} = \frac{(x-1)(1) - (x+1)(1)}{(x-1)^2} = \frac{(x-1 - x-1)}{(x-1)^2} = \frac{-2}{(x-1)^2} // \quad 8$$

$$f(x) = (5x^2 - 3) \cdot (x^2 + x + 4) \\ \hat{f}(x) = (6x^4 + 6x^3 + 20x^2) - (3x^2 - 3x - 12) \\ \hat{f}(x) = (20x^3 + 15x^2 + 40x - 6x - 3) \\ \hat{f}(x) = (20x^3 + 15x^2) (34x - 8x) // \quad 9$$

$$f(x) = \frac{6}{x^2} = 6x^{-2} = -25x^{-2-1} = -25x^{-3} = \frac{-25}{6x} // \quad 10$$

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$$f(x) = \frac{6}{x^3} + \frac{3}{x^2} = \frac{(0 + x^5 - 3 + 2x^3)}{x^{10}} + \frac{(0 + x^2 - 3 - 2x)}{x^4} =$$
$$\frac{-15x^4}{x^{10}} + \frac{-6x}{x^4} //$$

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$$f(x) = \sqrt{x} = f(x) = \frac{1}{2} (x^{\frac{1}{2}}) = f'(x) = \frac{1}{2} (x^{-\frac{1}{2}}) =$$
$$f(x) = \frac{1}{2} \sqrt{x} //$$

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$$f(x) = \frac{1}{\sqrt{x}} = f(x) = \frac{1}{x^{\frac{1}{2}}} = f(x) = \frac{1}{2} x^{-\frac{1}{2}} =$$
$$f(x) = \frac{-1}{2} x^{-\frac{3}{2}} = \frac{-1}{2\sqrt{x^3}} //$$

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$$f(x) = \frac{1}{x \cdot \sqrt{x}} =$$

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

$$\frac{2}{3} = x^{\frac{2}{3}-1} + x^{\frac{1}{2}-1} =$$

$$\frac{2}{3} = x^{-\frac{1}{3}} + x^{-\frac{1}{2}} =$$

$$\frac{2}{3\sqrt{x^3}} + \frac{1}{2\sqrt{x}} //$$

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$$f(x) = \sqrt[3]{x^2} + \sqrt{x} =$$

$$\frac{d(\sqrt[3]{x^2})}{dx} + \frac{d(\sqrt{x})}{dx}$$

$$\frac{d(x^{2/3})}{dx} + \frac{d(x^{1/2})}{dx}$$

$$\frac{2}{3} x^{2/3-1} + \frac{1}{2} x^{1/2-1} = \frac{2}{3} x^{-1/3} + \frac{1}{2} x^{-1/2} //$$

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$$f(x) = (x^2 + 3x - 2)^4 = f(x) = 4(x^2 + 3x - 2)^3 \cdot (x + 3) =$$

$$f(x) = (x^2 + 3x - 2)^3 (4x + 12) //$$

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$$f(x) = \sqrt{x^2 - 2x + 3}$$

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

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

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

$$f(x) = (2x - 2)$$

$$\frac{2x - 2}{2 \sqrt{x^2 - 2x + 3}}$$

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$$f(x) = \sqrt[4]{x^2 - x^3 - 2} =$$

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

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

$$f(x) = (x^2 - x^3 - 2)^{-3/4}$$

$$f(x) = (5x^4 - 3x^3)$$

$$\frac{5x^4 - 3x^3}{4 \sqrt[4]{(x^2 - x^3 - 2)^3}}$$

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