



PASIÓN POR EDUCAR



**Universidad Del Sureste
Campus Comitán
Licenciatura en Medicina Humana**

Tema: A derivar

Materia: Biomatemáticas

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Grupo: "B"

**Grado: Segundo semestre
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Exercises: $f(x) = n \cdot x^{n-1}$

$$x^7 = 7x^6$$

$$x^{10} = 10x^9$$

$$x^{20} = 20x^{19}$$

$$x^2 = 2x$$

$$x^4 = 4x^3$$

$$f(x) = 3x^5 \quad f'(x) = cf'(x)$$

$$3(5x^4) = 15x^4$$

$$7x^6 = 7(6x^5) = 42x^5$$

$$8x^2 = 8(2x) = 16x$$

$$6x = 6(x) = 6$$

$$2x^3 = 2(3x^2) = 6x^2$$

$$9x^4 = 9(4x^3) = 36x^3$$

$$f(x) = f(x) \pm g(x) \quad f(x) = f \pm g$$

$$4x^3 + 6x^2 = 12x^2 + 12x$$

$$x^4 + x^3 = 4x^3 + 3x^2$$

$$2x^2 - 8x = 4x - 8$$

$$7x^3 - 5x^5 = 21x^2 - 25x^4$$

$$10x^2 + 2x = 20x + 2$$

$$1. f(x) = 3x^2$$

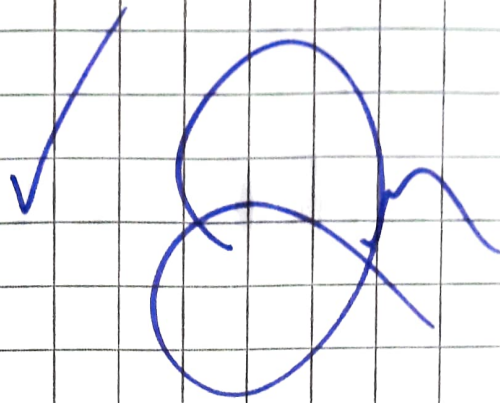
$$2. f(x) = 5$$

$$3. f(x) = 5$$

$$4. f(x) = -2x$$

$$5. f(x) = -2x + 2$$

$$6. f(x) = 2x^2 - 5$$



$$1. 3(2x^2) = \underline{6x} \cdot 6x$$

$$2. \underline{5} \cdot 1 = 0 \quad \text{constant } f(x) = 0$$

$$3. = \underline{-2x} \quad -2x = \underline{-2}$$

$$4. \underline{0} \cdot \quad \underline{-2}$$

$$5. \underline{4x - 5} \quad \underline{4x}$$

$$f(x) (f+g)' \quad f(x) = f'g + fg' = \\ (4x^2 + x) + (5x^2 - x)$$

$$[10x - x(4x^2 + x)] + [(8x + x)]$$

$$(4x + 1) + (10x^2 - 5)$$

$$[(20x - 5)(4x + 1)] + [(4 - 1)(10x^2 - 5)]$$

Teorema: Sea derivada de n potencias entera de n función $f(x)$

Sea $y = [f(x)]^n$ entonces

$$y' = n[f(x)]^{n-1} f'(x)$$

$$f(x) = (2x+3)^3$$

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

$$3(2x+3)^2 (2)$$

$$(6)(2x+3)^2$$

$$1 \quad y = (6x^3 - 5x^2 + 4)^3$$

$$(6x^3 - 5x^2 + 4)^{2+1}$$

$$2 \quad y = (5x^2 + 10x)^2$$

$$3 \quad y = (7x^3 - 2x^2 + 5)^4 \quad 1 \cdot (3)(6x^3 - 5x^2 + 4)^{3-1} (18x^2 - 10x)$$

$$(54x^2 - 30x)(6x^3 - 5x^2 + 4)^2$$

$$4 \quad y = (2x^{10} - 2x^5)^5$$

$$2 \cdot 2(5x^2 + 10x)^{2-1} (10x + 10)$$

$$(20x + 20)(5x^2 + 10x)$$

$$5 \quad y = (3x^3 - 2x^2)^6$$

$$3 \cdot 4(7x^3 - 2x^2 + 5)^{4-1} (21x^2 - 4x) \quad 4 \cdot 5(2x^{10} - 2x^5)^{5-1} (20x^9 - 10x^4)$$

$$(100x^9 - 50x^4)(2x^{10} - 2x^5)^4$$

$$84x^2 - 16x)(7x^3 - 2x^2 + 5)^3$$

$$5 \cdot (6)(3x^3 - 2x^2)^{6-1} (9x^2 - 4x)$$

$$(54x^2 - 24x)(3x^3 - 2x^2)^5$$

Harry Potter