$f(x) = 7,5x^2 + \frac{3528}{x}$

$f(6,17) = 7,5\,(6,17)^2 + \frac{3528}{6,17}$

$f(6,17) = 285,51 + 571,79$

$\boxed{f(6,17) = 857,3}$

Aux

$b(x) = \frac{3528}{x^1}$

$b(x) = 3528 \cdot x^{-1-1}$

$b'(x) = 3528 \cdot (-1)x^{-1}$

$b'(x) = -3528 \cdot x^{-2}$

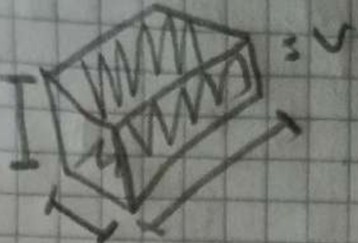
$b'(x) = \frac{-3528}{x^2}$

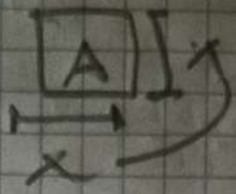
$y = \frac{252}{x^2}$

$y = \frac{252}{(6,17)^2}$

$y = 6,61$

Revisado





A 2

V = 3

$A = x$

$x^2 \cdot y = 252$

$y = \dfrac{252}{x^2}$

$V = 252\ m^2 = y \cdot x \cdot x = V = x^2 \cdot y$

$F = 0 = 5 \cdot x^2$

$T = 0 = 2{,}5 \cdot x^2$

$2 = 0 = 3{,}5 \cdot 4 \cdot xy$

$f(x) = 5 \cdot x^2 + 2{,}5x^2 + 14xy$

$f(x) = 7{,}5\,x^2 + 14x\left(\dfrac{252}{x^2}\right)$

$f'(x) = 7{,}5x^2 + \dfrac{3528}{x}$

$f'(x) = 15x + \left(\dfrac{3528}{x^2}\right)$

$f'(x) = -\dfrac{3528}{x^2} + 15x$

$-\dfrac{3528}{x^2} + 15x = 0$

$\dfrac{3528}{x^2} = -15x$

$-3528 = -15x \cdot x^2$

$-3528 = -15x^3$

$x^3 = +\dfrac{3528}{15}$

$x^3 = +\dfrac{1176}{5}$ $\quad f(x) = y$

$\sqrt[3]{x^3} = \sqrt[3]{\dfrac{1176}{5}}$

$\boxed{x = 6{,}17}$

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$f(x) = \ln(x$

$g(x) = x - 1$

$f'(x) = \frac{1}{x} \longleftrightarrow g'(x) = 1$

$\lim_{x \to \infty} \boxed{\frac{\infty}{\infty} \lim_{x \to 1} \frac{\ln x}{x-1} \frac{\infty}{\infty}} \to \lim_{x \to 1} \frac{f'(x) = \frac{1}{x}}{g'(x) = 1} = \frac{1}{x}$

$\lim_{x \to 1} \frac{1}{x} \quad \lim_{x \to 1} \frac{1}{(1)} = 1$

$f(x) = e^x$

$f'(x) = e^x$

Li

$(x) = \text{Sen}(3x)$

$\boxed{(x) = 3 \cdot \cos(3x)}$

$g(x) = x - \frac{3}{2} \cdot \text{Sen}(2x)$

$g'(x) = 1 - \frac{3}{2} \cdot 2 \cdot \cos(2x$

$\boxed{g'(x) = 1 - 3\cos(2x)}$

$\lim_{x \to 0} \frac{\text{sen } 3x}{x - \frac{3}{2}\text{ Sen}(2x)} = \frac{0}{0}$

$f(x) = \text{Sen}(3x)$

$f'(x) = 3 \cdot \cos(3x$

$g(x) = x - \frac{3}{2} \cdot \text{Sen}(2x)$

$g'(x) = 1 - \frac{3}{2} \cdot \cos(2x)$

$g'(x) = 1 - 3\cos(2x)$

$\lim \frac{3\cos(3x}{1 - 3\cos(2x}$

$\ln(x)$

$\lim_{x \to 0} \frac{3\cos(3 \cdot 0)}{1 - 3\cos(2 \cdot 0)}$

$\frac{1}{x}$

$\lim_{x \to 0} \frac{3 \cdot 1}{1 - 3 \cdot 1} = \frac{3}{-2} = \frac{3}{2}$

$-1 \quad 3$

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C D U

b = 10 $\boxed{1 | 2 | 3}$

3 2 1 0

$1 \times 10^2 + 2 \times 10^1 + 3 \times 10^0$

100 + 20 + 30

123

b = 2 $\boxed{1 | 0 | 1 | 1}$

3 2 1 0

$\boxed{1 \times 2^3 + 0 \times 2^2 + 1 \times 2^1 + 1 \times 2^0}$

8 + 0 + 2 + 1

11_{10}

b = 8 $\boxed{1 | 3 | 2 | 2}$

2 1 0

Aux

64
3
192

$1 \times 8^3 + 3 \times 8^2 + 2 \times 8^0$

192 + 56 + 2

250

b = 2 $\boxed{1 | 1 | 0 | 1 | 1}$

4 3 2 1 0

$1 \times 2^4 + 1 \times 2^3 + 0 \times 2^2 + 1 \times 2^1 + 1 \times 2^0$

16 + 8 + 0 + 2 + 1

27A

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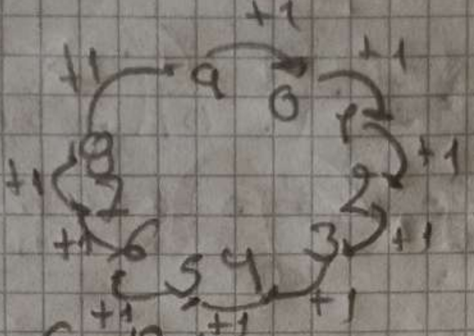
Delgado Salaverria Keluin Wismar

Clase con el ayudante # 3

10 → sim b_{10}

C D U

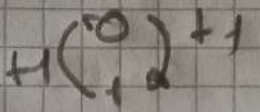
| 0 | 3 | 0 | +1



$b=2$

C D U

| 0 | 1 | 1 | 1 | +1

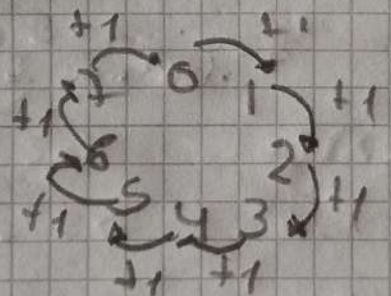


$100_2 = 4_{10}$

$101 = 5_{10}$

$b=8$

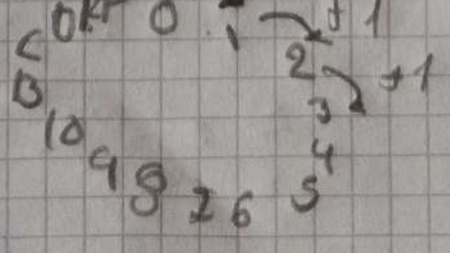
| | 2 | 0 | +1



$10_8 = 8_{10}$

$11 = 9$

| | 1 | 1 | 1 | 0 | +1



$10_x = 16_{10}$

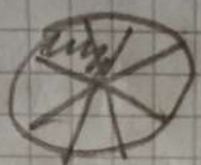
$f'(0) = 12(0) - 8$

$f'(0) = \boxed{-8}$

$\frac{5}{3} - \frac{4}{7} = \quad \frac{5}{2} - \frac{2}{3} + \frac{3}{5} = \left(\frac{5}{2} \cdot \frac{15}{15}\right)\left(\frac{2}{3} \cdot \frac{10}{10}\right) + \left(\frac{3}{5} \cdot \frac{6}{6}\right)$

$\frac{1}{2} + \frac{3}{4} = \quad = \frac{75}{30} - \frac{20}{30} + \frac{18}{30} = \frac{73}{30}$

$\frac{4}{4}$



$\frac{8}{8}$

$\frac{2}{8}$

$\frac{1}{4} \cdot \frac{2}{2}$

$\frac{2}{8}$

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Ayudante de Catedra # 2

$f(x) = -x^2$

① f' y f''

$f'(x) = -2x$

$f''(x) = -2 \rightarrow C = (x, y) \rightarrow \boxed{C = (0,0)}$

$-2x = 0$ | $f(0) = -(0)$

$x = \frac{0}{2}$ | $f(0) = 0$

$\boxed{x = 0}$ | $y = 0$

$f''(x) = P \cdot I$

$f''(x) > 0 \rightarrow P.min$

$f''(x) < 0 \rightarrow P.Max$

$f''(x) = 2$

$f''(0) \boxed{= -2}$

---

① $f'(x) = 6x^2 - 8x$

$f''(x) = 12x - 8$

$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

② $f'(x) = 0 \rightarrow x = C \rightarrow C(\ ,\ )$

$6x^2 - 8x = 0$

$x(6x - 8) = 0$

$6x = 8$

$x = \frac{8}{6} = \frac{4}{3}$

$f\left(\frac{4}{3}\right) = 2\left(\frac{4}{3}\right)^3 - 4\left(\frac{4}{3}\right)^2$

$f\left(\frac{4}{3}\right) = 2 \cdot \frac{64}{27} - 4 \cdot \frac{16}{9}$

$1 = \frac{4}{4}$ — $0_v = 0$

$f\left(\frac{4}{3}\right) = \frac{128}{27} - \frac{64}{9}$

$\frac{1}{4} + \frac{1}{4} = \frac{2}{4}$ $\frac{1}{8} + \frac{1}{4} \rightarrow \frac{1}{8} + \frac{1}{4} \cdot \frac{2}{2} = \frac{1}{8} + \frac{2}{8}$

$\frac{128}{27} - \frac{64}{9} = \frac{3}{3}$

$f''(c) = 12x - 8$

$f''\left(\frac{4}{3}\right) = 12\left(\frac{4}{3}\right) - 8$

$\frac{128}{27} - \frac{192}{27} = \frac{64}{27}$

$f''\left(\frac{4}{3}\right) = \left(\frac{12}{1}\right)\left(\frac{4}{3}\right) - 8$

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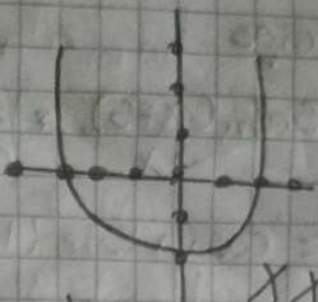
Regla de la suma

Regla = si $f(x) = g(x) + h$



X X+5X

Reglas de la suma

$f(x) = x^2 + 5x$

$f'(x) = 2x + 5$

$f(x) = 4x^3 - x^2$

$f'(x) = 12x^2 - 2x$

$f'(x) = 24x$

$f'(x) = 4 - 1$

Regla del producto

$f'(x) = x^2 \cdot s\ in(x)$

$f(x) = 2x \cdot Sen(x) + x^2 \cdot \cos x$

$F(x) = 3x^2$

$f'(x) = x^7$

$f'(x) = 0 \cdot x^7 + 3 \cdot 7x^6$

$F'(x) = 0 + 21x^6$

$f'(x) = 0 + 21x^6$

$f'(x) = (2x+1) \cdot ex$

$f'(x) = 2 \cdot ex + \cdot (ex+1) \cdot$

$f'(x) = 2ex + 2e^x + e^x$

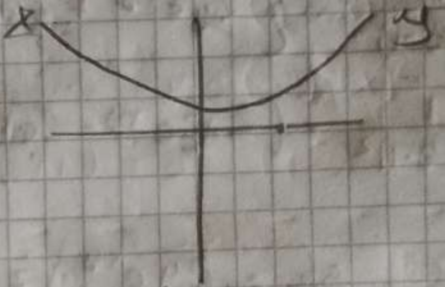
Delgado Saltivarria Kelvin Vismar

Clase del Ayudante # 1

Las derivadas

La x es una costante { Cuando se deriva una costente siempre es cero porque no existe una inclinacion

una Parabola



Parabolas

Si existe inclinacion

Regla de la potencia

si $f(x) = x^n$, entonces $f'(x) = n \cdot x^{n-1}$

1 Derivada $f(x) = x^2$ $f(x) = x^5$ $5-1=4$

2 Derivada $f(x) = 3x^2$ $f'(x) = 5x^4$

coeficiente

$\bar{F}(x) = 3x^7$

$f'(x) = 5 \cdot x^4$ $5-1=-4$

$f(x) = 21x^6$

$F(x) = 3x^7 \cdot$ $7 \cdot 1 = 6$

$F(x) = 3(7 \cdot x^6)$ Es como derivan pero con más pasos

$f'(x) = 21x^6$

Reglas de la Costante

Para la determinante de una costante es $= 0$

$35 + \frac{5x}{2x} - 1$

$1-1=0$

$5 \cdot 1 = 5$ $\frac{5x}{5}$ $5^0 \frac{+x}{1}$ $1x^0 = 1 \cdot 1 > 1$

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