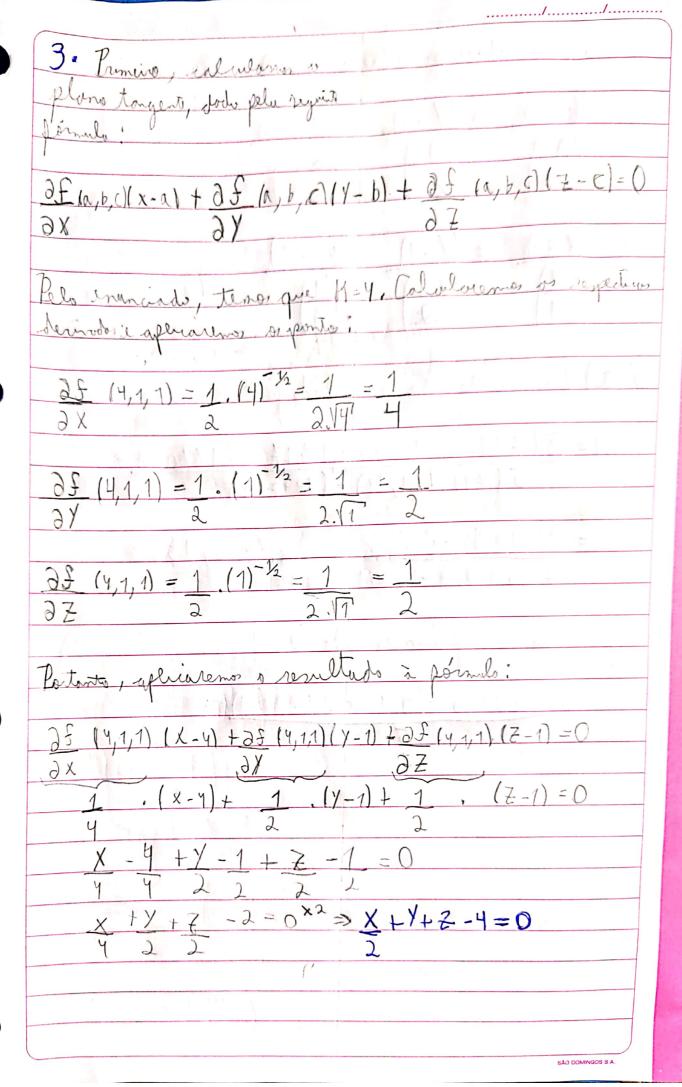
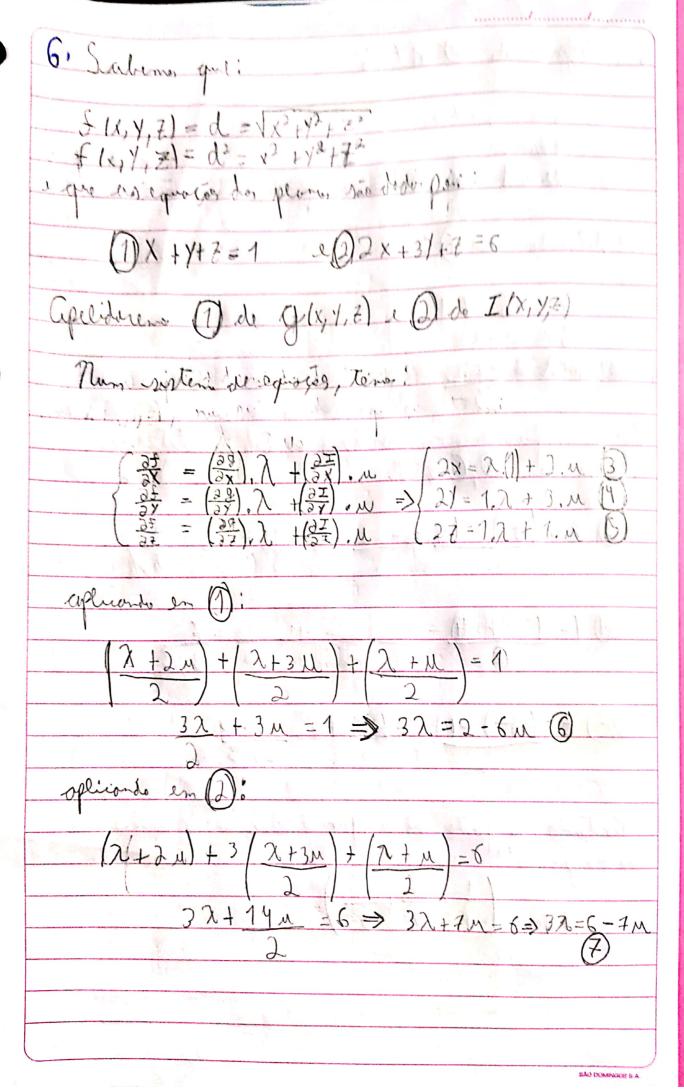
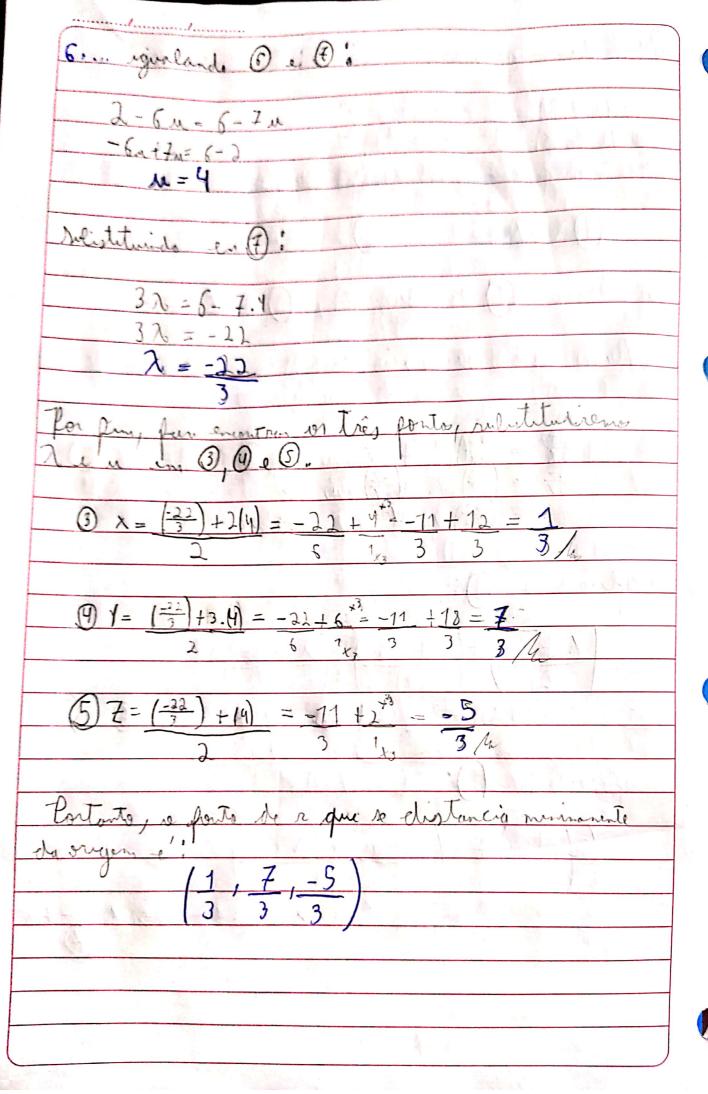
10 Temos que o volume d'ado par:
V 2 0 1
$V = T \cdot R^2 \cdot h$
6
E, pelo enverodo, temos que:
du 11 3 d 1 a 0 2 d 0002
$\frac{dV = 4\pi m^3 min}{dT} = 0, 2 cm = 0,002 m$
OT S OLT min
(031
Com a rois de 2 m de / = 20 Tim3, coludores:
20 7 = 4 / h => h = 20 = 5 m
The state of the s
Calculando a regia du evdeia:
$\frac{dV = \frac{\partial V}{\partial h} \frac{\partial h}{\partial t} + \frac{\partial V}{\partial r} \frac{\partial R}{\partial t}$
av = av, ah + av, ak
at ab dit ab at
Substitution
11 11 11 11 11 11 11 11 11 11 11 11 11
$\mathcal{A} = (\mathcal{A}, \mathcal{A}) \cdot (\mathcal{A}, \mathcal{A}) + (2 \mathcal{A}, \mathcal{A}, \mathcal{A}) \cdot (2 \mathcal{A}, A$
S
(d)2/11/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/
$y = (1) \cdot (0 + (1, 1, 2, 5) \cdot (2)$
$\frac{1}{3}$
9 = 1. (Qh) + 90
S (AT) 10'
4-4-4/
5 10° (AT)
201-4 =4.(dh)
1 2 102
10 10 10
$7.6.10^{\circ} = 4.10 \wedge 1$
108 (17)
10 101)

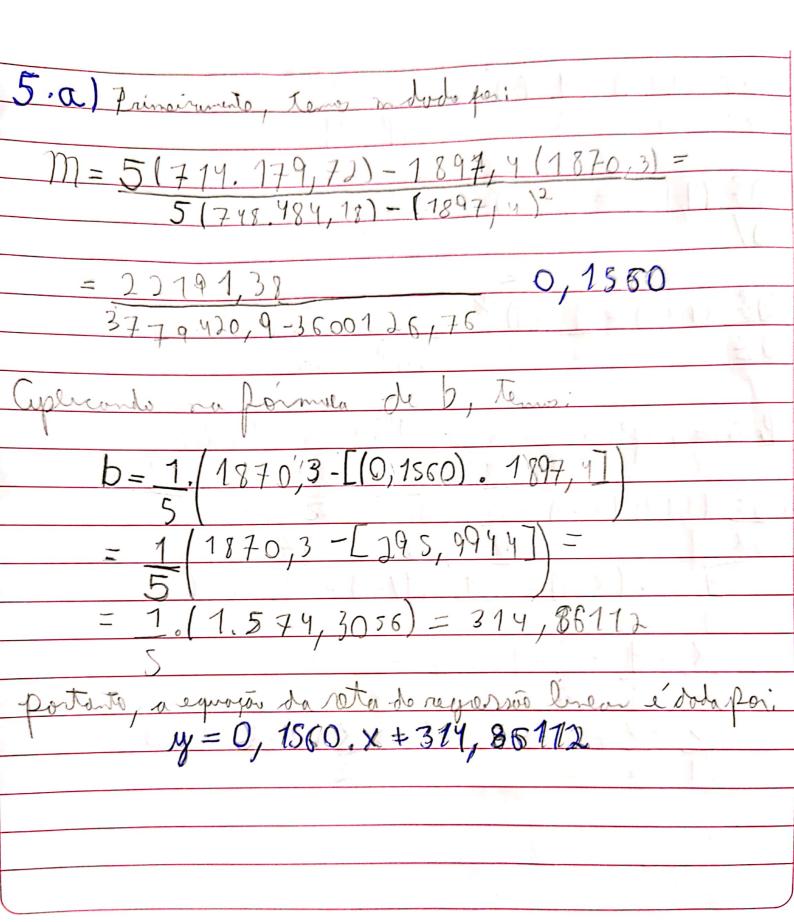
$\frac{1. dh = 0.78 = 0,19! \text{ m/min}}{4}$
Q_{\perp}
2.a) Primero, colulare, os o vetos godiente, depor apluorens o poto
$\nabla f(x,y) = (3x, 3y)$ $\nabla f(x,y) = (6x + D1, 3x)$
Enter tende o retor gradiente, aplicación frontes
$\nabla f(3, -6) = (6.13) + 2.(-6), 2.(3)$ $\nabla f(3, -6) = (6, 6)$
Calculando a norma do retor co gorto (5,6) tens:
$\ \nabla f(\xi, \xi)\ = \ \xi^2 + \xi^2\ = \ 72' - 2 \cdot 3\ \ 2\ = 6\ 2\ $
72/2
34/2
18 2
9 3
1 3 1 3 /
101
b) a taxo de vorigeas práctico será doda na directo
do porto 7f(3,-6)=(6,6)
Tall and the same of the same



Calculo deferencial integral I four Bedra P. Bertondo prova 21 porte 2 BA 112650
3×112650
parva 21 fore L
$4. f(x,1) = x^3 + y^2 - 6x^2 + y - 1$
Vetor Gradiente: Vf(x,y) = (5x, fy) = (0,0)
crear grageans. V fixin = 10kgs
$\nabla f(x, y) = (3x^2 - 1)x, 2y+1)$
J (1) 11 = (31 - 13 x) 2/ # 1)
$(3x^2-1)y=0^{-3}$ $x^2-9x=0$
$ \begin{cases} 3x^2 - 12x = 0 \\ 2y + 1 = 0 \end{cases} \begin{cases} x^2 - 4x = 0 \\ x^2 - 4x = 0 \end{cases} $
2 por regar
P1(0, -1/2) x=0 ou (x-y)=0
$P1 = 0, -\frac{1}{2}$ $Y = 0$ ou $(x - y) = 0$ $Y = 0$ ou $(x - y) = 0$ $Y = 0$ $Y = 0$
Calularens 19 hisrions!
Security of Julian.
$H(x,y) = \int_{xy} f_{xy} = \left[\int_{x} x - 1 \right] = \left[\int_{x} x - 1 \right]$
1 5 xx 5 yy 0\ 112.
H(x,y) = 2(8x-12) = 12x-2y
Cipliando do Panto:
$a(0, -1/2) \rightarrow 1/2 = 12/2 = -24/2$
· (0, -1/2) => H(0,-1/2) = 12.(0)-24=-24<0
Thomas store
* (4,-12) => H(4,-12) = 12. (4) -24 = 24>0
TESTE 2ª derivoda
$f_{xx}(4,-\frac{1}{2}) = 6.(4)-12 = 12.20$
· Minimo local
11 WWW LOCAL







5.6) faremos a robertituição de ponto ra equa do reta do regressão linea encontrado; Y = 0.1560.(340,4) + 314,86112 = Y = 367,96352