Q find the value of K. A= [-2 + 3] 2[-2 k] - 7[-2 5] +3[-2 k] 2(1-2×3)-0(4)]-7[-2×2-0×5]+3[-2×3-0(2) 2(-6]-7[-4]+3[-6]. -12 +28-18 -30+28 1A1=-2 [K=-2]

PROlle's theorem $f(x) = \chi^2 - 2\chi - 3 \text{ in (1,3)}$ If (x) is continous [a,b)

I f(x) is differiptiable in (a,b)

The their of atleast one pt' ('(a,b)')

Such that f'(c) = 0

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

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

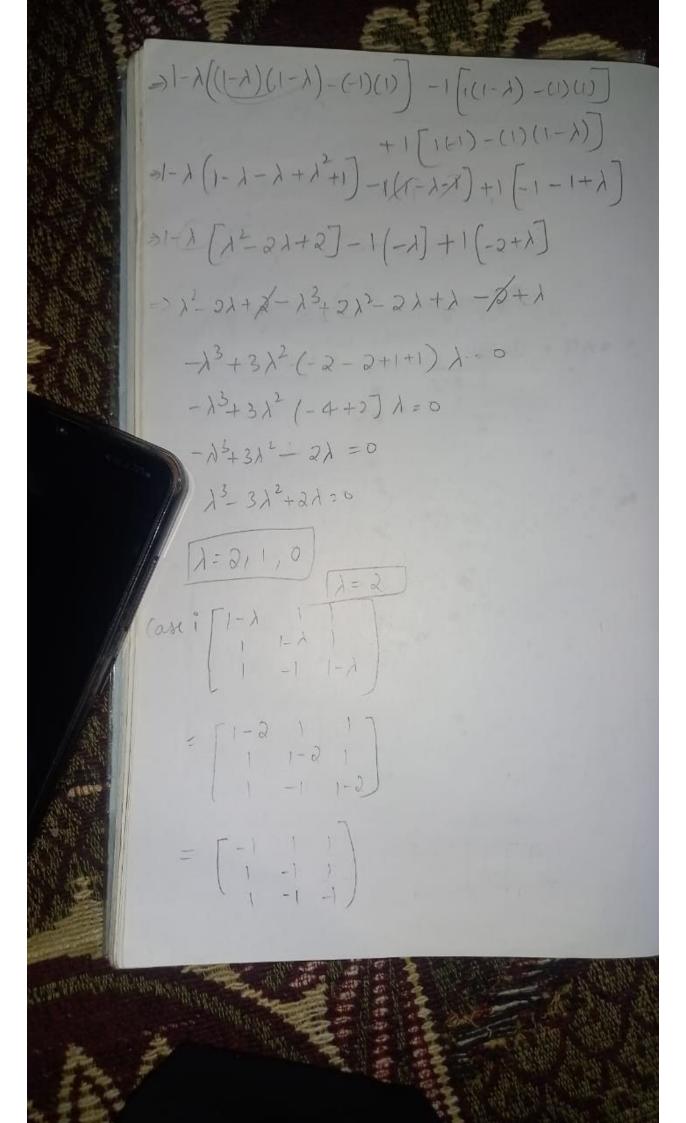
$$f(1) = 1 - 3 - 3$$

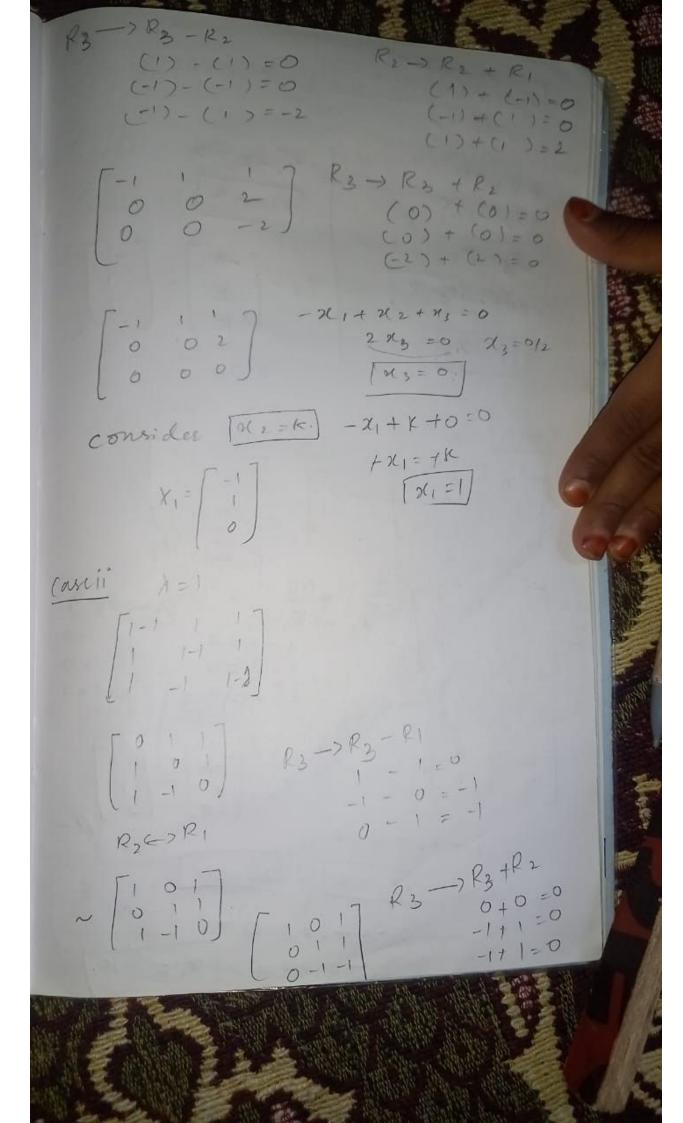
$$f(3) = 3^{2} - 3(3) - 3$$

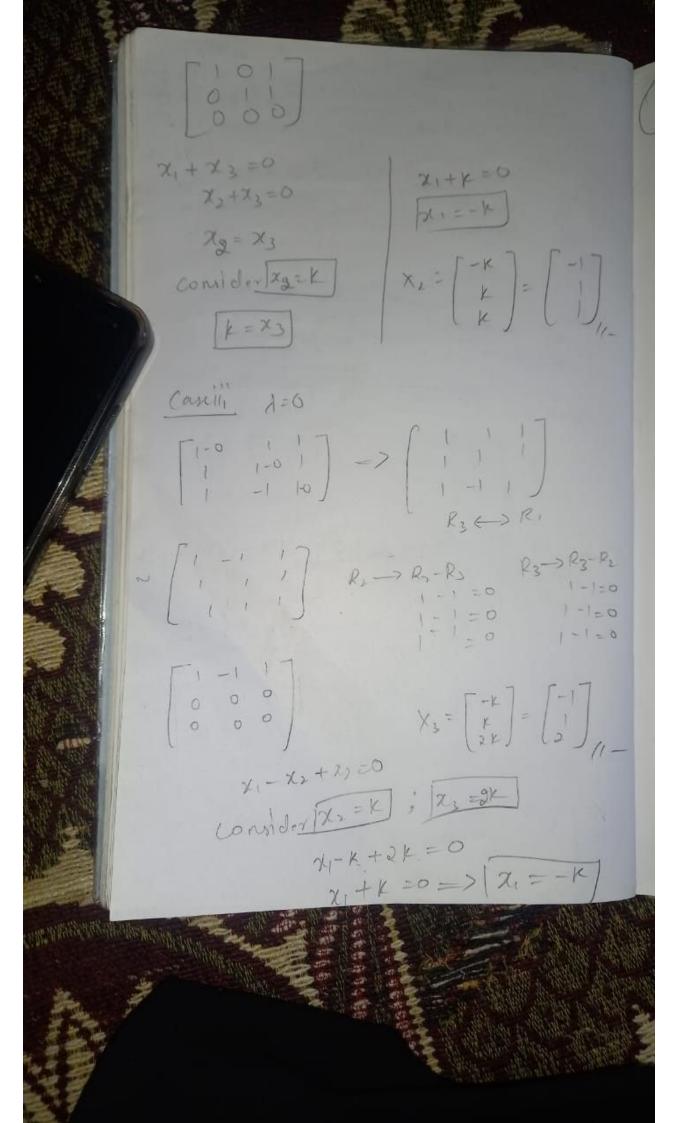
$$f(3) = 9 - 6 - 3$$

$$f(3) = 9 - 1 = 0$$

$$f(3) =$$







6
$$y^{2} + 4ax y + 7 = 4(x - 2a)^{2}$$

(inter of curvature $x = x - (y + (y + y))$
 $y^{2} + 4ax$
 $2yy' = 4a$
 $y' = \frac{2a}{y} = \frac{2a}{y}$
 $y'' = -\frac{2a}{y} = \frac{2a}{y}$
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 $x - x - (\frac{2a}{y} (1 + \frac{2a}{y^{2}})^{2}) = x - (\frac{2a}{y} (\frac{2a}{y})^{2}) = x - (\frac{2a}{y} (\frac{2a}{y})^{2})$
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$$X = x + \left[\frac{4\alpha x + 4\alpha^{2}}{2\alpha}\right]$$

$$X = x + \frac{3\alpha}{2\alpha}\left[2x + 3\alpha\right]$$

$$X = 3x + 2\alpha$$

$$x = 3x$$

$$x = \frac{x - 3\alpha}{3}$$

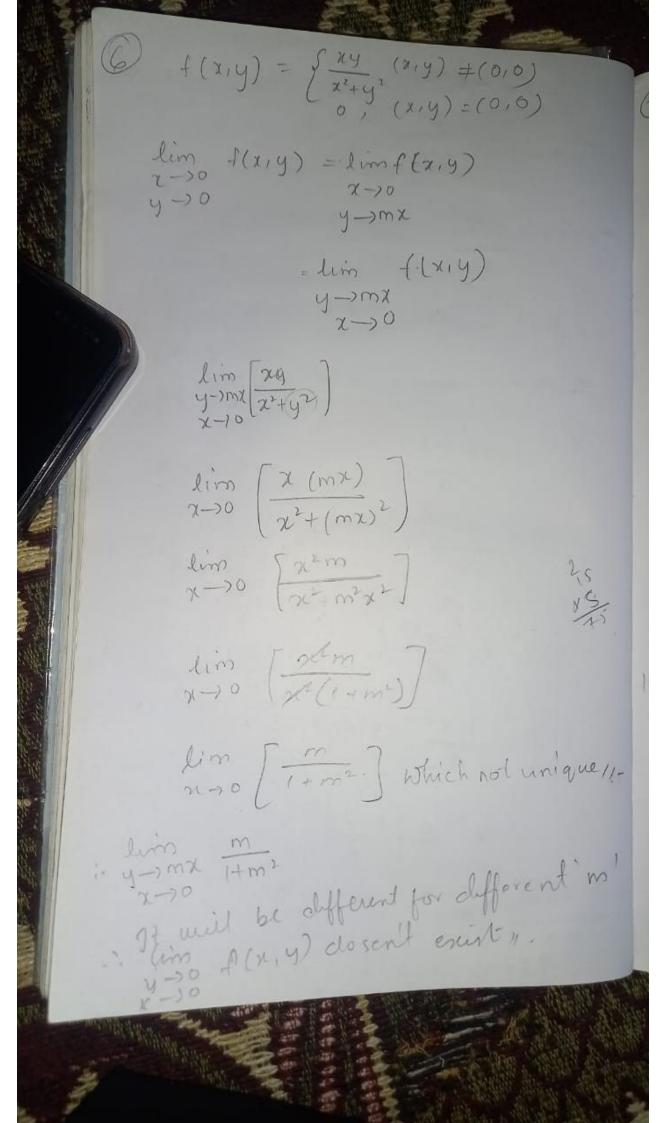
$$3x = x - 3\alpha$$

$$y = y + \left[\frac{1 + \left[\frac{9\alpha}{4}\right]^{2}}{4y^{3}}\right]$$

$$-4\alpha^{2}$$

$$y = y + \left[\frac{y^{2} + 4\alpha^{2}y}{y^{3}}\right] = y + \left[\frac{y^{3} + 4\alpha^{2}y}{4\alpha}\right]$$

$$= y + \left[\frac{y^{3} + 4\alpha^{2}y}{4\alpha^{2}}\right] = y + \left[\frac{y^{3} + 4\alpha^{2}y}{4\alpha}\right]$$



Taylor series of
$$f(x) = \sin x$$
 about x

$$f(x) = \sin x = \sin(\pi/4) = 1/62$$

$$f(x) = \cos x = -\cos(\pi/4) = 1/62$$

$$f''(x) = -\sin x = -\sin(\pi/4) = 1/62$$

$$f'''(x) = -\cos x = -\cos(\pi/4) = 1/62$$

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$$f'''(x) = -\cos x = -\cos(\pi/4) = 1/62$$

$$f'''(x) = -\cos x = -\cos x$$

2V = -7 (7+4+22)-3/2

$$\frac{\partial^{2}v}{\partial x^{2}} = \frac{\partial}{\partial x} \left[\frac{\partial v}{\partial x} \right] = -\frac{\partial}{\partial x} \left[\frac{\partial}{\partial x} (x^{2} + y^{2} + v)^{2/2} \right]$$

$$\frac{\partial}{\partial x^{2}} = \frac{\partial}{\partial x} \left[\frac{\partial v}{\partial x} \right] = -\frac{\partial}{\partial x} \left[\frac{\partial}{\partial x} (x^{2} + y^{2} + v)^{2/2} \right]$$

$$\frac{\partial}{\partial x^{2}} = \frac{\partial}{\partial x} \left[\frac{\partial}{\partial x} (y^{2} + v)^{2/2} \right] = \frac{\partial}{\partial x} \left[\frac{\partial}{\partial x} (y^{2} + v)^{2/2} \right]$$

$$\frac{\partial}{\partial x^{2}} = \frac{\partial}{\partial y} \left[\frac{\partial}{\partial x} (y^{2} + v)^{2/2} \right] = \frac{\partial}{\partial x} \left[\frac{\partial}{\partial y} (y^{2} + v)^{2/2} \right]$$

$$= \frac{\partial}{\partial x} \left[\frac{\partial v}{\partial y} \right] = \frac{\partial}{\partial x} \left[\frac{\partial}{\partial x} (y^{2} + v)^{2/2} \right]$$

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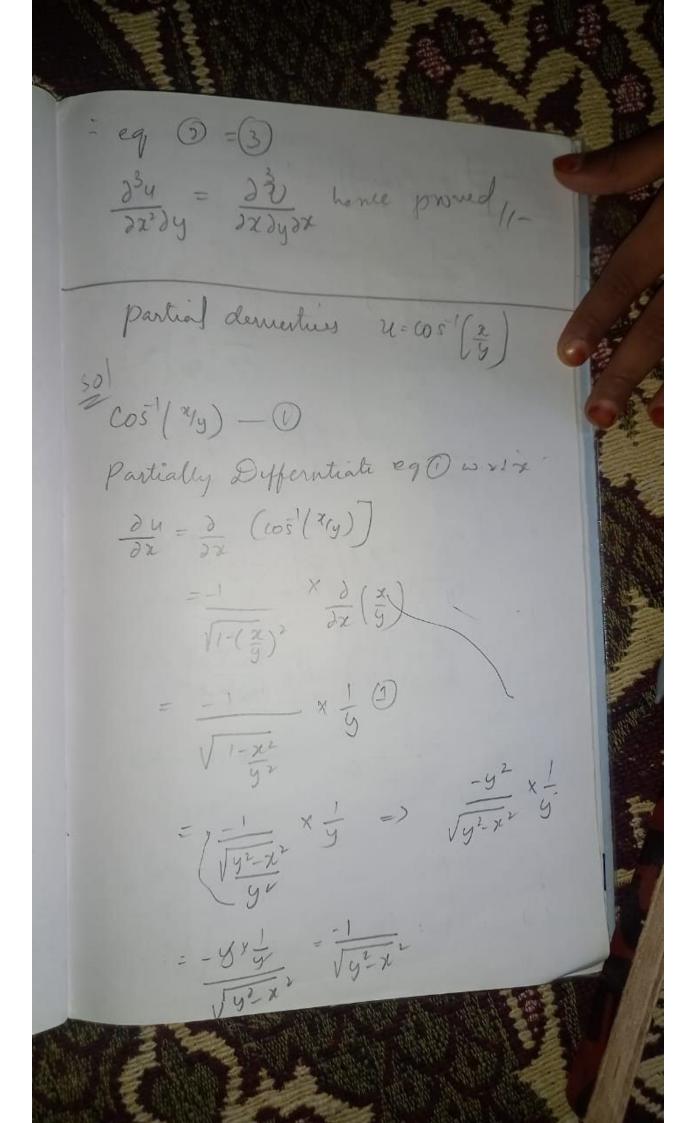
$$\frac{\partial}{\partial x} \left[\frac{\partial u}{\partial x} \left| \frac{\partial u}{\partial y} \right| \right] = \frac{\partial}{\partial x} \left[x^{y'}(1 + y \log x) \right] - 2$$

$$\frac{\partial^{3} u}{\partial x^{2} \partial y \partial x} = \frac{\partial}{\partial x} \left[\frac{\partial u}{\partial x} \right]$$

$$u = x^{y}$$

$$\frac{\partial u}{\partial x} = \frac{\partial}{\partial x} (x^{y})$$

$$\frac{\partial u}{\partial x} = \frac{\partial u}{\partial x$$



Similary

Similary

Ju = J (cos (2/y))

= -1

Vi-(x)

= -1

x

2 = 3y (05y) = -1 3y (05y) = -1 - 3y (05y) = -1 VI - 21 2 = - 1 x x x d (1/2) 3/2 (1/2) = -1/2 = y' xxx[-1] -y x - 2 = x/y

192-x2 /y = Vey-x2 24 = 2 24 - 2 - 2 - 21-

Caley Hamilton theorem A = (327 $A = \begin{bmatrix} 3 & 2 \\ 1 & 4 \end{bmatrix}$ (A - AI) = 0 $= \begin{bmatrix} 3-\lambda & 2 \\ 1 & 4-\lambda \end{bmatrix}$ $\frac{1}{9}$ = (3-1)(4-1)-1(2)212-31-41+12-2 = 10-71+12 = 12-71+10 signace I' with it A= 7 A + 10 = 0 5 A AZA- TAA-+100=0A-ALA - 7AA - - 10A 10 [A2A - 7AA] = AT 10 [32] +7 [0] = AT

$$= \frac{1}{10} \left[\left(\frac{3}{1} - \frac{2}{4} \right) + \left(\frac{70}{0} \right) \right]$$

$$= \frac{1}{10} \left[\left(\frac{4}{-1} - \frac{2}{3} \right) + \left(\frac{70}{0} \right) \right]$$

$$= \frac{4}{10} \left[\frac{4}{-1} - \frac{2}{3} \right]$$

$$= \left(\frac{4}{10} - \frac{2}{10} \right)$$

$$= \frac{4}{10} \left[\frac{4}{-1} - \frac{2}{3} \right]$$

$$= \frac{4}{10} \left[\frac{3}{10} - \frac{2}{10} \right]$$

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$$= \frac{2}{10} \left[\frac{3}{10} - \frac{2}{10} \right]$$

$$= \frac{3}{10} \left[\frac{3}{10}$$