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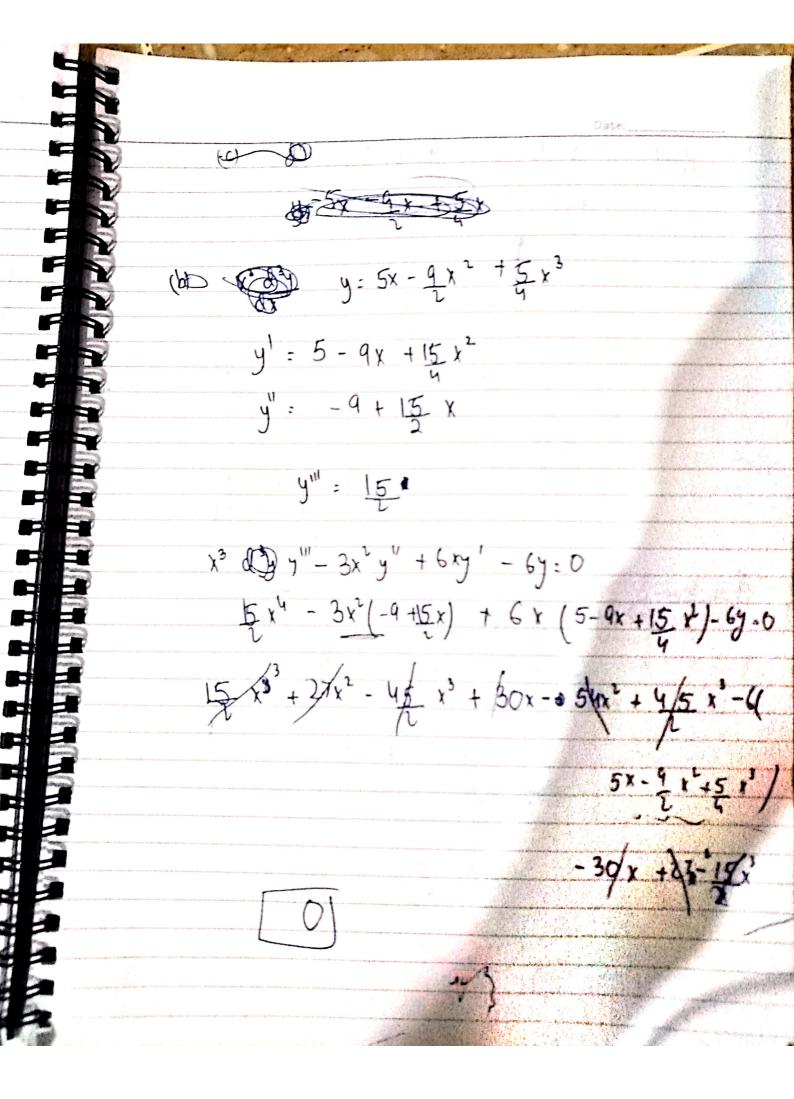
坩

$$\frac{-2 = c_1 e^{(0)} + c_1 e^{-3(0)}}{-2 = c_1 + c_2}$$

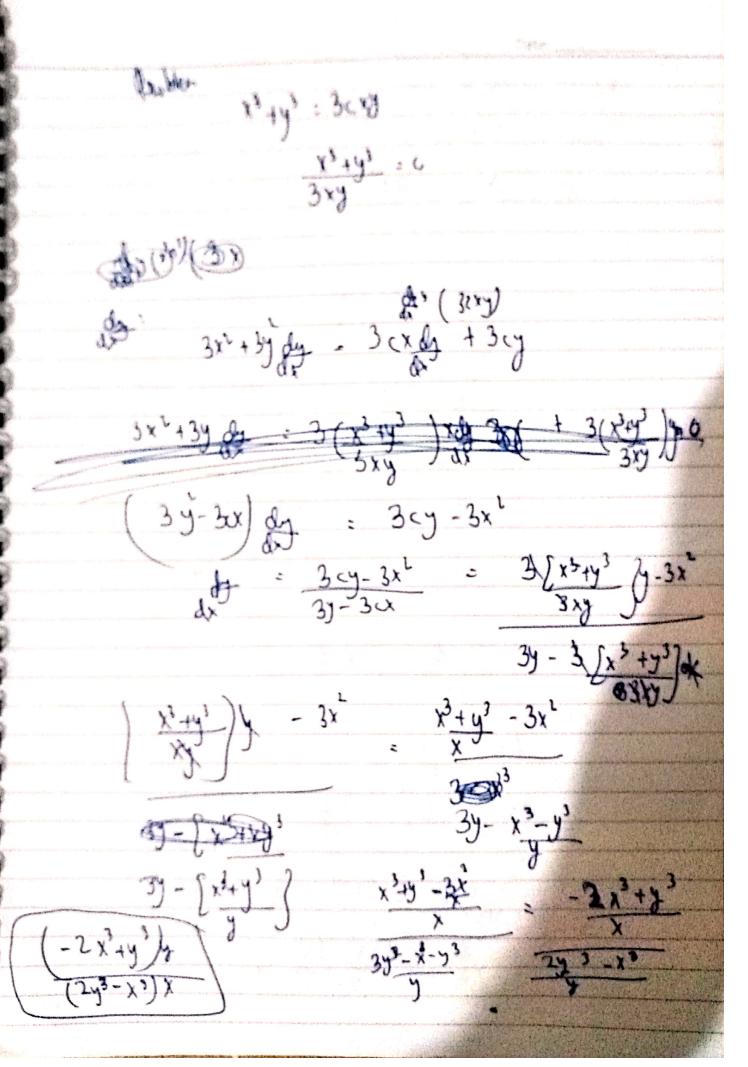
$$y' = 6e^{-3x}$$

 $y' = -16e^{-3x}$

(b)
$$x^3 \frac{dy}{dx^3} - 3x^4 \frac{dy}{dx^3} + 6x \frac{dy}{dx^3} - 6y = 0$$
 $y(y) = 2$
 $y'(y) = 2$
 $y'(y) = 2$
 $y'(y) = 3$
 y



dry + y=0 y(0)=1, y(\frac{\pi}{2})=-1 y s ci sinx tacos x (0)=1 1 = e c 2 63 y = CI Cosx - cz sinx (A) :- 1 g -1= c, (0) ho solution of due to 75% blen 3. u=3cx 41 s 3c 3.c x di



Ora) the bath (xy+2x+y+1)dx + (x2+2x)dy = 0

\$ y(x+) + L(x+1) + (x2+2+/by = 0 (x+1) (y+2) + (x2+2x) dy =0

(x4x) dy - (x+1)(y+2)

 $\int \frac{dy}{y+1} = \int \frac{(x+1)}{x^{1}+2x}$

-1 JX+1 dx

- L L (x4LX) & + C

10()+10 - tu(x's 10)in

9+2= 1 x+4 +c

Que Solve exc. of
$$D \cdot E$$

$$e^{x} \left[y - 3(e^{x} + 1)^{2} \right] dx + (e^{x} + 1)^{2} dy = 0$$

$$y(0) - 4$$

$$y'(0) - 4$$

$$e^{x} \left[\frac{3}{4} + \frac{$$

$$e^{x} = e^{x}$$

$$\frac{\partial f}{\partial x} = e^{x} [y - 3(e^{x} + 1)^{2}]$$

$$\frac{\partial f}{\partial x} = \int e^{x} + 1 y + 3(x)$$

$$\frac{\partial f}{\partial x} = e^{x} y + 3(x)$$

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

 $(e^{x})^{\circ}$ 9= 100 = J-3e (e+1) -3ex(1ex+2ex+1))-3e3x-6e2x-3ex -3/c= -6/e -3/ex

 $5(x) = e^{3x} - 3e^{2x} - 3e^{x}$ j : ey ty tex -e3x - 3e2x - 3ex