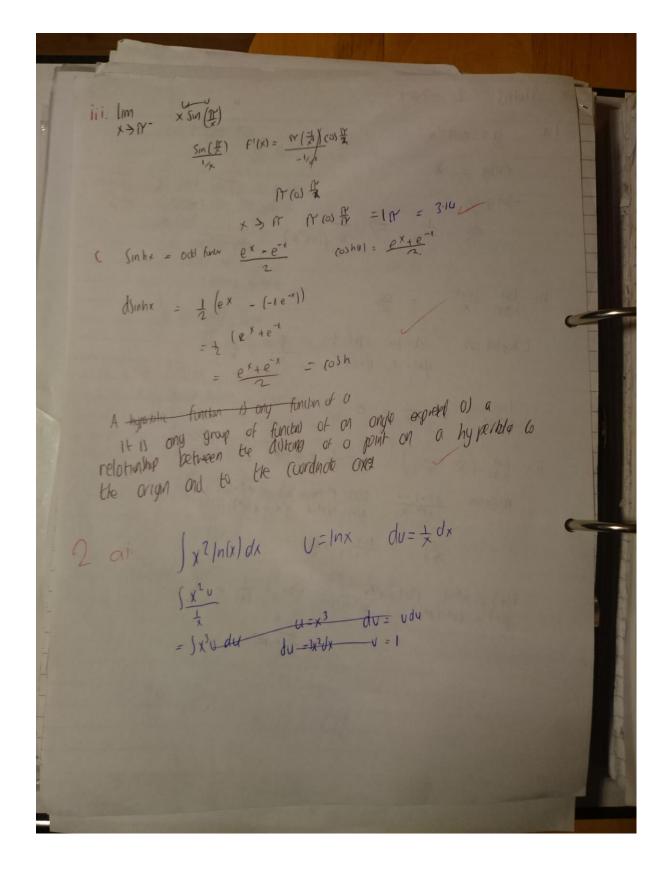
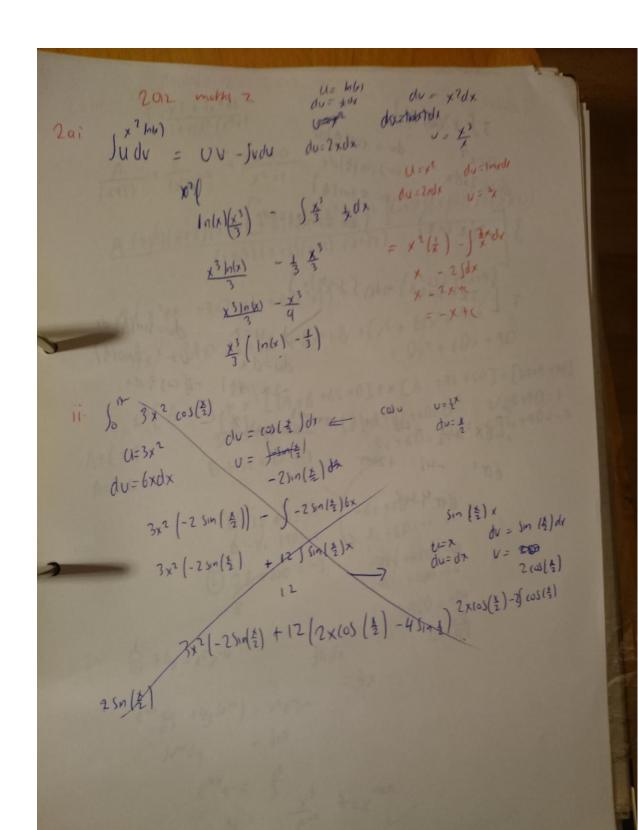
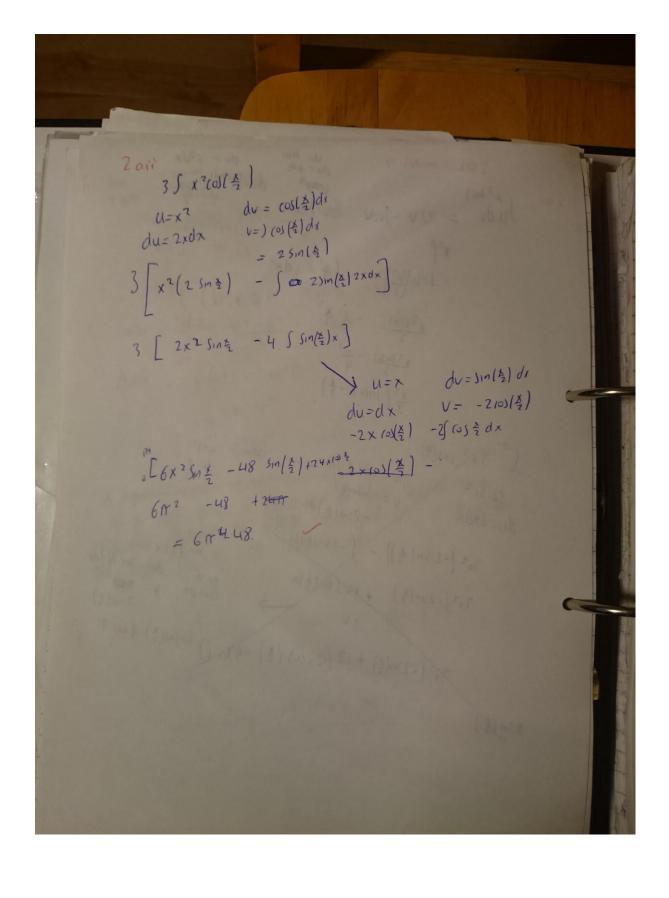
Modes 2 - 2012

1 a 
$$g = cos^{-1}x$$
 $cos g = x$ 
 $-sin g$ 



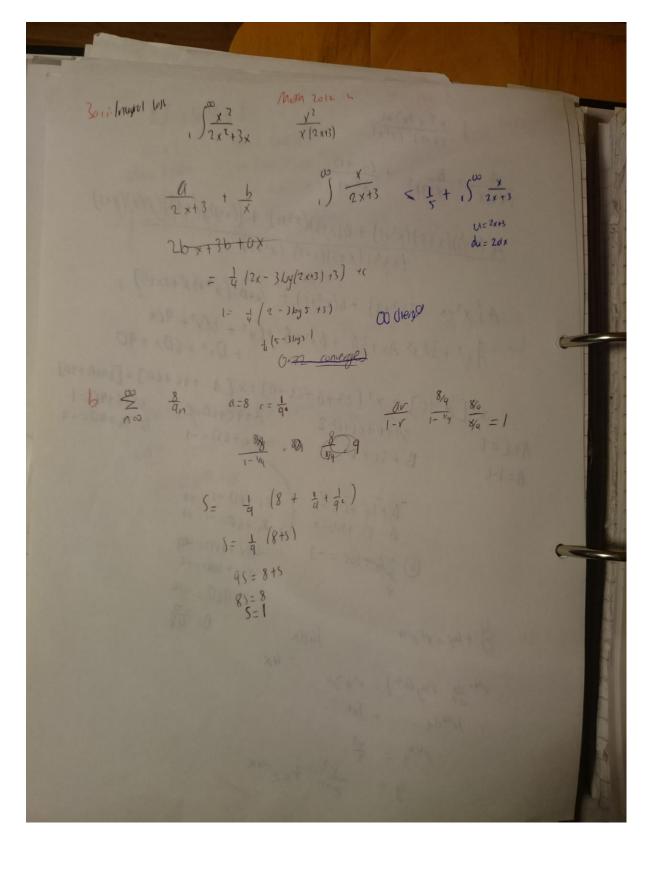


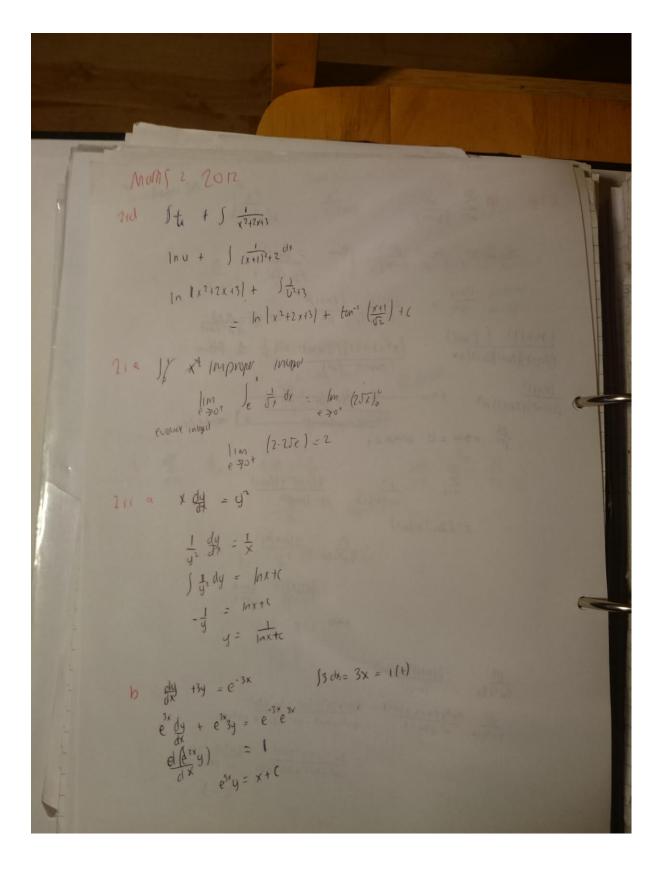


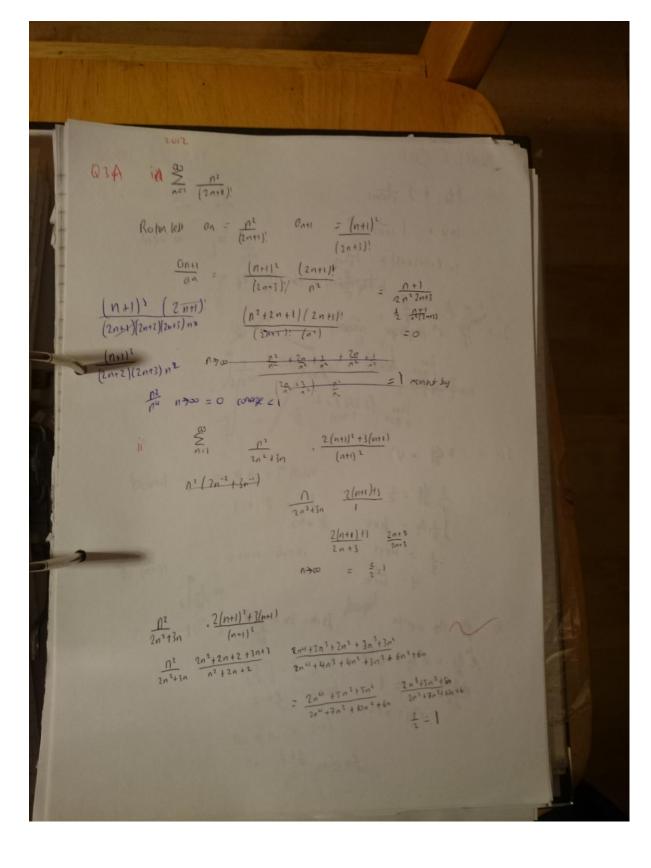
2 am 
$$\int \frac{x^{3} + 2x^{2} + 1}{(x+1)^{2} (x^{2} + 1)}$$

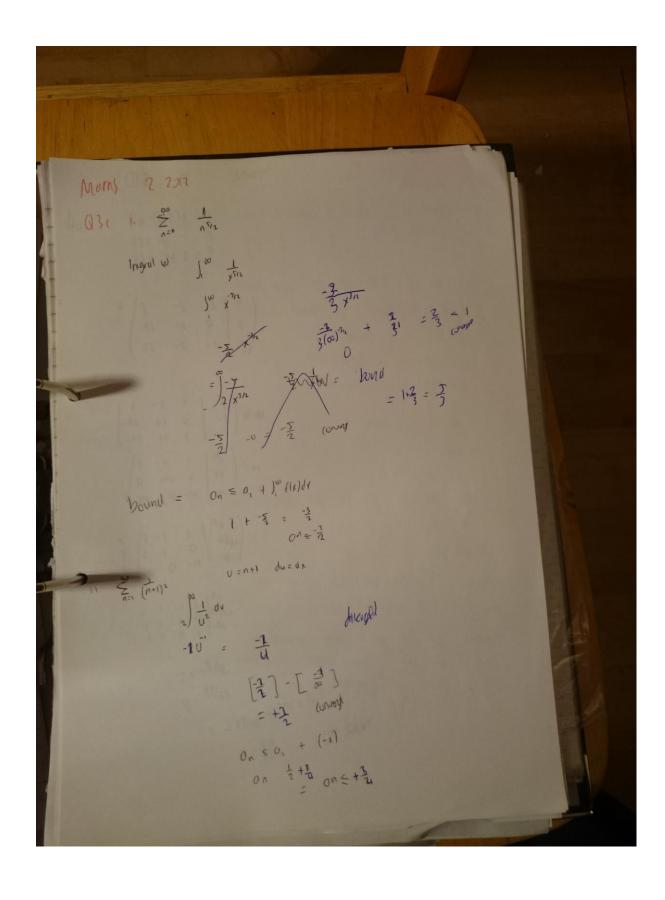
$$\frac{A}{(x+3)} + \frac{B}{(x+1)^{2}} + \frac{Cx + 10}{x^{2} + 1}$$

$$A \left( \frac{x^{3}}{x^{4}} \right) \left( \frac{x^{2}}{x^{2}} \right) + \frac{B}{(x+3)} \left( \frac{x^{2}}{x^{4}} \right) + \frac{B}{(x+1)} \left( \frac{x^{2}}{x^{4}} \right) \left( \frac{x^{2}}{x^{4}} \right) \left( \frac{x^{2}}{x^{4}} \right) \left( \frac{x^{2}}{x^{4}} \right) + \frac{B}{(x+1)} \left( \frac{x^{2}}{x^{4}} \right) \left( \frac{x^{2}}{x^{4}} \right) \left( \frac{x^{2}}{x^{4}} \right) + \frac{B}{(x+1)^{2}} \left( \frac{x^{2}}{x^{4}} \right) \left($$









$$3x - 3y + 3x = 7$$
  
 $92x - 9 = 3$   
 $73x - 19 - 2 = 7$ 

4A. (2 | 3 ) (3 | 2)

1 1 1 1 00 2 1 3 0 10 3 1 2 001

R3-38, 111 0 1 0 1 0 0 1 -2 0 0 -3 1

R,+R2 1 0 2 1 1 -1 0 0 -1 1 1 -2 0 0 -2 -1 0 -3 1

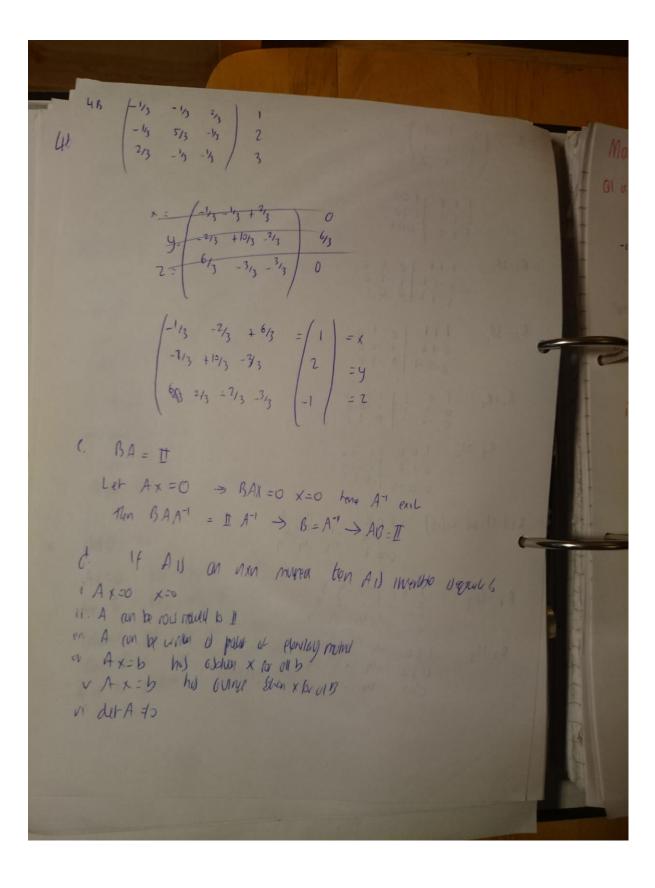
Ry-2R2 102 1 -10 0-1 1 1 -20 60-3 1-21

 $R_2(-1)$  and  $L_3(-\frac{1}{3})$  102  $\frac{1}{2}$   $\frac{7}{2}$  0 0 1 -1  $\frac{7}{2}$  0

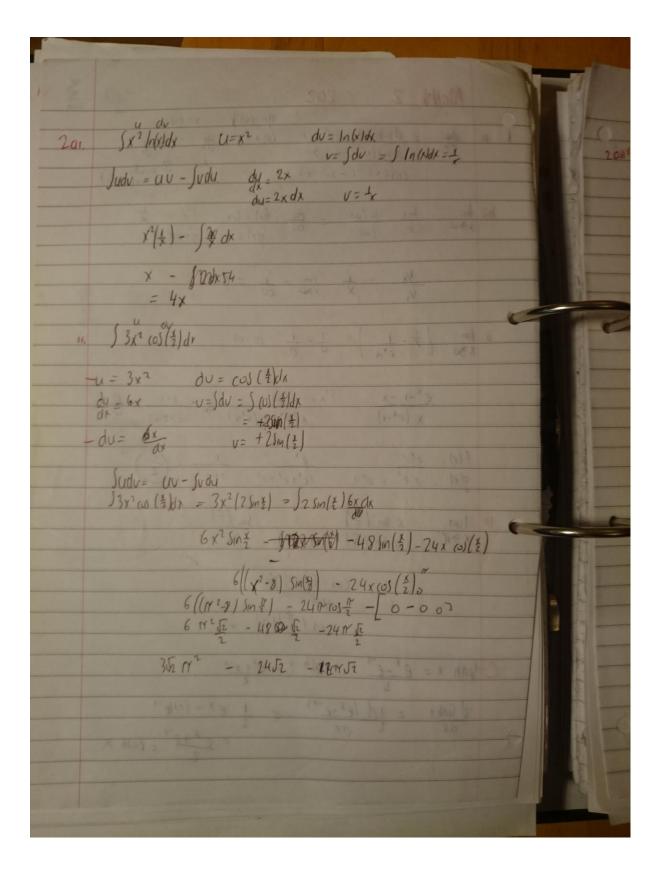
R, -2R<sub>3</sub>

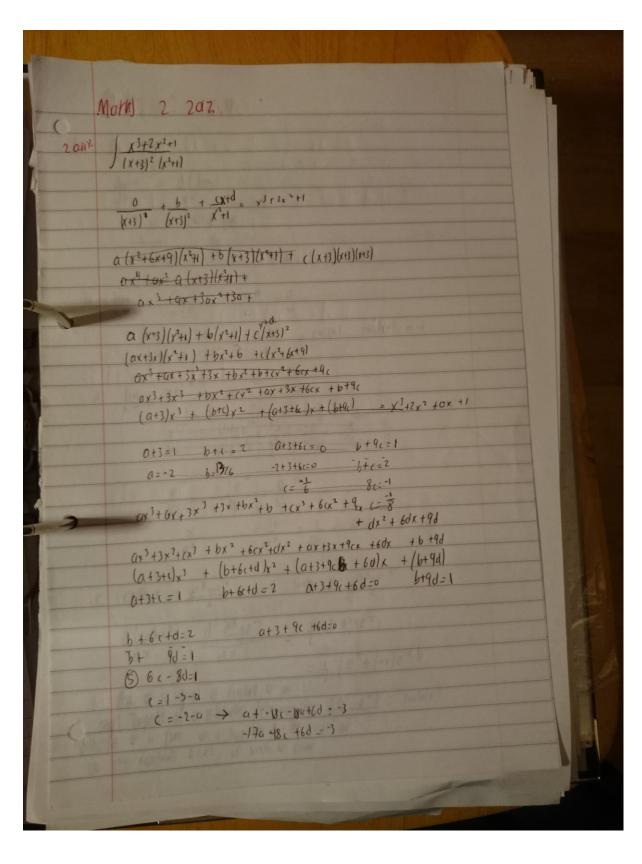
| 0 0 | -1/3 - 1/3

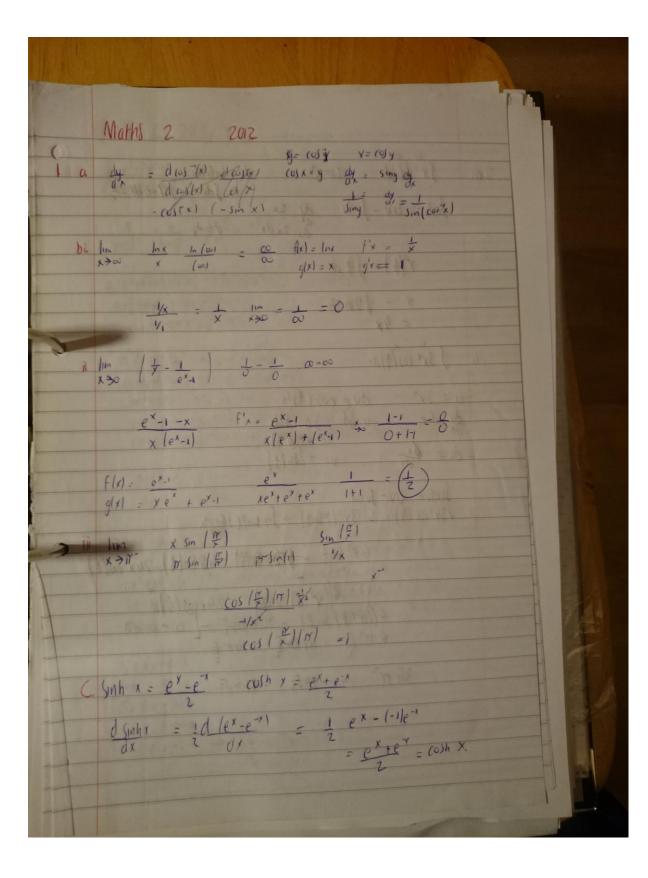
R2 +R3 100 -15 -15 25 013 -13 513 -15 001 213 -15 19



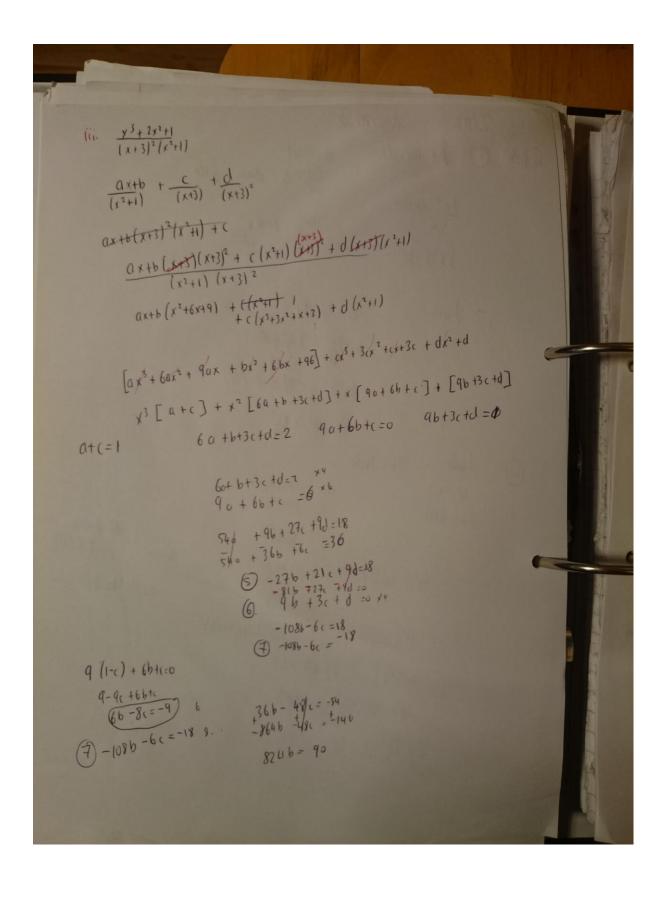
40 A + = B Inverse of a more a oration motors A" sur thut A"A = I = (10) delerminat of A & only for sque navid det (A) = amount A stretal a veror. det (A) <1 = Shrindiety. out (A) 71 = tengled velo det (A) = 1 only while mxn Syur me me now necolu Input and out the the sure dinanton (number of compress) c det(A) 70 Ax=0 has only are John X=1 Ax=B ho) only one solute Columns of A are linear independent raws of A are lirary indigend (rows cren't multiple death ste. A is a produce of elementary motival







2012 Marns 2 Q2A (1) ) x2 ln(x)dx u=ln(x) du = + du= +dx Jx2 udu Sx3u du Judy = uv-Judy  $\frac{\ln(x)\frac{x^3}{3} - \int \frac{x^3}{3} \frac{1}{x} dt}{\frac{\ln(k)x^3}{3} - \frac{x^3}{3} \frac{1}{x} \left(\frac{x^3}{3}\right)}$ 1n(x) - 3x3 Sudv = Uv-Svdu dv = (0)(2)dx U=3x2 V= S(U)(1/2) du = 6xdx du=dx \( V = \frac{1}{2} \) · 5 in (x) 3x2 ( Sin( 1/2) ) - 5 Sin (1/2) 6x de  $-\frac{\chi(\omega)\left(\frac{x}{2}\right)}{2}$   $\phi - \frac{1}{2}\left(\frac{-\sin\left(\frac{x}{2}\right)}{2}\right)$  $-35 \times \sin(\frac{5}{2})$   $-35 \times \sin(\frac{5}{2})$   $-36 \times \cos(\frac{5}{2}) + \frac{15 \sin(\frac{5}{2})}{2}$   $30^{2}(\frac{1}{2}) - 3(0 + \frac{1}{4})$   $3\frac{1}{2}^{2} - \frac{3}{4} - [+3(\frac{1}{2})]$ - 341-3-34



Marh) 2 202 261: dy +49 = x2e-4x i p(t) = 4x ii Integrally fact I (x)= 4x
iii mulphy occurs) by e ix) e4x  $\Rightarrow e^{ux} \frac{dy}{dx} + 4y e^{u} \frac{x}{y} = x^{2} e^{-yx} e^{yx}$   $= x^{2}$   $\begin{cases} d e^{4x} y = x^{3} + 1 \\ e^{4x} y = \frac{x^{3} + 1}{3} \end{cases}$   $y = \frac{x^{3} + 1}{2}$   $y = \frac{x^{3} + 1}{2}$   $y = \frac{x^{3} + 1}{2}$