$ \begin{array}{cccccccccccccccccccccccccccccccccccc$
a) $xy dy + 4x^2 + y^2 = 0;  y(x) = 7, x > 0$ $xy dy = -(4x^2 + y^2)$ $dx \qquad xy$ $xy dy = -(4x^2 + y^2) dx$ $(xy) dy + (4x^2 + y^2) dx = 0$ $2M = x \neq 2N = 8x$ $3y \qquad 3x$ $-(3M - 3N) = h(y) = h(y) = h(y) = 0$ Appint, pub fair uniquals: $-(3M - 3N) = h(y) = h(y) = h(y) = 0$ $-(3y - 3x) = x(-1+8) = 7$ $xy \qquad xy \qquad y$ $h(y) = \frac{x}{2} + f_{100}(x) of_{10}(x) = 1$ $y$
a) $xy dy + 4x^2 + y^2 = 0;  y(x) = 7, x > 0$ $xy dy = -(4x^2 + y^2)$ $dx \qquad xy$ $xy dy = -(4x^2 + y^2) dx$ $xy dy = -(4x^2 + y^2) dx$ $(xy) dy + (4x^2 + y^2) dx = 0$ $2M = x \neq 2N = 8x$ $3y \qquad 3x$ $-(3M - 3N) = h(y) \Rightarrow 1(y) \Rightarrow 2(y) = e$ $(3y  3x) \qquad h(y) \Rightarrow x \qquad y$ $h(y) = \frac{x}{2} + \frac{1}{2} + \frac{1}{2}$
$\frac{dx}{dx}$ $\frac{dx}{dx} = -(4x^2 + y^2)$
$xy dy = -(4x^{2}+y^{2})$ $dx$ $xy dy = -(4x^{2}+y^{2})$ $xy dy = -(4x^{2}+y^{2}) dx$ $(xy) dy + (4x^{2}+y^{2}) dx = 0$ $\frac{\partial M}{\partial x} = x \qquad \Rightarrow \lambda $
$\frac{\partial x}{\partial x}$ $\frac{\partial x}{\partial y} = -(4x^2+y^2)$ $\frac{\partial y}{\partial x} = -(4x^2+y^2) dx$ $\frac{\partial y}{\partial x} = -(4x^2+y^2) dx = 0$ $\frac{\partial y}{\partial x} = \frac{\partial x}{\partial x}$ $\frac{\partial x}{\partial x} = \frac{\partial x}{\partial x}$ $\partial $
$dy = -(4x^{2}+y^{2})$ $dx \times xy$ $xydy = -(4x^{2}+y^{2})dx$ $(xy)dy + (4x^{2}+y^{2})dx = 0$ $\frac{\partial M}{\partial y} = \frac{1}{2}x + $
$xydy = -(4x^2+y^2)dx$ $(xy)dy + (4x^2+y^2)dx = 0$ $\frac{\partial M}{\partial x} = x                                $
$xydy = -(4x^{3}+y^{2})dx$ $(xy)dy + (4x^{3}+y^{2})dx = 0$ $\frac{\partial M}{\partial x} = x                                $
$Ayyim, bb fdz uniquato:$ $-(x - 5x) = x (-1+8) = 7$ $-(x - 5x) = x (-1+8) = 7$ $xy$ $xy$ $y$ $h(y) = \frac{1}{4} - 0 \text{ funcion objects } y$
Appin, pob form uniquents: $ -(3m - 3n) = h(y) \stackrel{?}{+} l(y) = e $ $ -(x - 5x) = x (-1+8) = \frac{1}{4} $ $ h(y) = \frac{1}{4} - 0 \text{ funcos objects on } y' $
Appin, pob form uniquents: $ -\left(3m - 3nV\right) = h(y) \stackrel{?}{\Rightarrow} l(y) = e $ $ -\left(x - 5nc\right) = x(-1+8) = \frac{\pi}{2} $ $ h(y) = \frac{\pi}{2} + b \text{ function objects of the property} $
Appin, pob form uniquate: $ -\left(3m - 3nV\right) = h(y) \stackrel{?}{\Rightarrow} l(y) = e $ $ -\left(x - 5x\right) = x(-1+8) = \frac{7}{2} $ $ h(y) = \frac{7}{2} + 1 \text{ function objects of the constraints} $
Appim, pb fator uniquents: $ - (3M - 3N) = h(y) \stackrel{?}{\Rightarrow} l(y) = e $ $ - (x - 5x) = x (-1+8) = \stackrel{?}{\Rightarrow} $ $ h(y) = \stackrel{?}{\Rightarrow} - b \text{ funcos alpaces arm'y'} $
$-\left(\frac{\partial M}{\partial y} - \frac{\partial N}{\partial x}\right) = h(y) \stackrel{?}{\Rightarrow} -(y) = e$ $-\left(\frac{\partial M}{\partial y} - \frac{\partial N}{\partial x}\right) = \frac{\lambda}{2}\left(-\frac{1+8}{2}\right) = \frac{1}{2}$ $-\left(\frac{\lambda}{2} - \frac{\lambda}{2}\right) = \frac{\lambda}{2}\left(-\frac{1+8}{2}\right) = \frac{1}{2}$ $\frac{\lambda}{2} + \frac{\lambda}{2} + \frac$
$-\left(\frac{\partial M}{\partial y} - \frac{\partial N}{\partial x}\right) = h(y) \stackrel{?}{=} l(y) = e$ $-\left(x - sx\right) = x\left(-1 + 8\right) = \frac{7}{4}$ $xy$ $y$ $h(y) = \frac{7}{4} - \frac{1}{4} \text{ function objects arm 'y'}$
$\frac{(3y - 3x)}{m} = \frac{1}{x}(-1+8) = \frac{1}{x}$ $\frac{(x - 8x) = x(-1+8) = \frac{1}{x}}{xy}$ $\frac{(x - 8x) = x(-1+8) = \frac{1}{x}}{y}$
-(x - sx) = x(-1+8) = 7 $xy$
h(y) = 7 + + função alpuzo em'y'
$h(y) = \frac{4}{y} - 0 \text{ funcos algues am'y'}$
y
y
Audim:  Try) = e to
$I(y) = y^{2} + total integrals$
<b>Г</b> ОВОН

(xy) dy + ("x" + y") dx = 0 x y"
7 tay da + (42° + 13) day = 0
IN THE STATE OF TH
$\frac{\partial M}{\partial M} = 8y^{4}x = \frac{\partial x}{\partial N} = 8y^{4}x$
Alain .
$\left  w(x^3)  dx \Rightarrow \lambda_x  dx \Rightarrow \lambda_x, + 3(\lambda) \right $
2
) ( [wandas = 3 9 ( 1, x, + d(x)) = 8 x, x, din
34 2 2
$\frac{1}{2} \frac{4y^3x^2 + g(y)}{y^3}$
Angum: $4y^2x^2 + g'(y) = 4y^2x^2 + y^9$ $g'(y) = y^9$
2'(1) - 49
301-7
Johnson Landy - ( Valy = Vo
Q(4) =   4(4) 4   1 = 1 = 1 = 1
10
$g(y) = y^{10}$
0 30
$\mu(x,y) = m(x,y)dx = C$
1, 2, + a(1) = C
3.
$\frac{1}{2} \frac{1}{10} = 0$
2 30

PVI: y(2) = 7, x>0
$y^{\delta}x^{2} + y^{\rho} = \mathbb{C}$
$( = (7)^{8}(2)^{2} + (7)^{10}$
2 10 /
$lso(x) dy + ben(x)y = 2(lso(x))^3 ben(x) - 1$
dx
y(1/4) = 3\\(\frac{1}{2}\) 0 \(\frac{1}{2}\)
J( 141 = 5 Va
( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( )
$\theta_{\mathcal{D}(x)}y' + \kappa_{\mathcal{D}_{\mathbf{A}}(x)}y = 2(\kappa_{\mathcal{D}(x)})^{3} \beta_{\mathcal{D}_{\mathbf{A}}(x)} - 1$
<b>A</b>
P(x). y'+Q(x).y = R(x) => Eno Linear
(mn(x) dx
$T=e^{\int_{-\infty}^{\infty} -e^{-2\pi i x} dx}$
=> mmmdx = -cor+C & I = e
$y(x) = 1 \cdot ([x], b(x) dx + C)$
$\frac{\int (x)}{\int (x)} \left( \frac{\int (x)}{\int (x)} \frac{\partial (x)}{\partial x} + C \right)$
$y(x) = \int \left( \left( e^{-\frac{x}{2}} \left( x \right) \right) dx \right) dx$
$\frac{y(x) = \int \left( (e^{-\frac{x}{2}} (x) + \frac{x}{2} (x) + \frac{x}{2} (x) \right) dx}{(x)^{2}}$
$e^{-i\omega(z)}$

 $-3y = -(x+1)^4$ P)  $\chi+1$ - 34 y'(x) + p(x) y = q(x) POC) =-3 X+1 dz = -3 m(x+1) = e I(x) = A Down ! [(x) · 9(x) (x+1)M (x+) /8 (x+1)3 b+x  $\chi^2 + \chi$ X2(X+1)3 +  $\therefore y = \chi^{2}(x+1)^{3} + \chi(x+1)^{3} + C(x+1)^{3}$ 

$(2xy - 9x^2)dx + (2y + x^2 + 1)dy = 0$
2n = 2x = 2N = 22 = 26 = 0
JX JX
$\int m(x,y) dx \Rightarrow \int (2xy - 9x^2) dx \Rightarrow x^2y - 3x^3 + g(y)$
3 ( [ M(x,y) dx ) = 3 ( x y - 3x 3 · 3 (y) )
Characteristic Service Control
\$ x, + 3,M
7/2 g(y) = 24+22 c)
gw sy+1,
27+2 by - 2 72+ y
your,
man = manda = C
$\frac{11(x,y)-x,y-3x,y+3(y)}{x,y-3x,y+3(y)}$
M(1) - 1, 1-11, 11, 11, 11, 11, 11, 11, 11,
1, 31, 31, 51, 51 = C
Yo 727+ x2-3x3 = C = forma implissa,