5. 1 dy - 4 y = 1	
5. 1 dy - 4 y = 1	
dy - 4ny = n di	
P(n) = -4n	
IF: e S-un on	
= e ^{-2n²}	
	u- 2n ²
(-2n²	du = -4x dr i du = x dr
$y = \int ae^{-2u^2} du$	1.1 x dv
2x2 (-2x2	4
$e^{2x^2}\int ne^{-2n^2}dn$	
$= e^{2x^2} \left[-\frac{1}{4} e^{-2x^2} + C \right]$	
U = -1 . Co.2x2	
y = -1 + ce ^{2x²}	
$\frac{6}{dx} = \frac{x}{dy} = x^6 e^x$	
$\frac{dy}{dn} - \frac{4}{n} y = n^5 e^n$	
dn	
P(x) = -4	
IF = E	
J-y dr	
2 C -4 ln k	
i e	

$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	y: 1 (nset du	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1-4 J x4	
1. $\frac{1}{1} \cdot \frac{1}{1} \cdot \frac$		
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Jule on	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		
7. $\frac{dy}{dt} + \frac{y}{y} + \frac{x}{x} = 0$, $\frac{y}{4} = 0$ 1. $\frac{dy}{dt} + \frac{y}{y} + \frac{x}{x} = 0$ 1. $\frac{dy}{dt} + \frac{y}{t} = \frac{x}{t} = 0$ 2. $\frac{dy}{dt} + \frac{dy}{dt} = 0$ 2. $\frac{dy}{dt} + \frac{dy}{dt} = 0$ 3. $\frac{dy}{dt} = 0$ 4. $$	= n: Lne"-e" +c]	
7. $\frac{dy}{dt} + \frac{y}{y} + \frac{x}{x} = 0$, $\frac{y}{4} = 0$ 1. $\frac{dy}{dt} + \frac{y}{y} + \frac{x}{x} = 0$ 1. $\frac{dy}{dt} + \frac{y}{t} = \frac{x}{t} = 0$ 2. $\frac{dy}{dt} + \frac{dy}{dt} = 0$ 2. $\frac{dy}{dt} + \frac{dy}{dt} = 0$ 3. $\frac{dy}{dt} = 0$ 4. $$		
$P(n)=1$ $TF = e^{31 ch}$ $= e^{\pi} \int x e^{\pi} dx + c$ $= e^{\pi} \left[x e^{\pi} - e^{x} + c \right]$ $= \pi - 1 + e^{\pi} c$ $4 = 0 - 1 + c$ $c = 5$ $y = \pi - 1 + 5e^{-\pi}$	$= n^5 e^n - n^4 e^n + n^4 c$	
$P(n)=1$ $TF = e^{31 ch}$ $= e^{\pi} \int x e^{\pi} dx + c$ $= e^{\pi} \left[x e^{\pi} - e^{x} + c \right]$ $= \pi - 1 + e^{\pi} c$ $4 = 0 - 1 + c$ $c = 5$ $y = \pi - 1 + 5e^{-\pi}$		
$P(n)=1$ $TF = e^{31 ch}$ $= e^{\pi} \int x e^{\pi} dx + c$ $= e^{\pi} \left[x e^{\pi} - e^{x} + c \right]$ $= \pi - 1 + e^{\pi} c$ $4 = 0 - 1 + c$ $c = 5$ $y = \pi - 1 + 5e^{-\pi}$		
$P(n)=1$ $TF = e^{31 ch}$ $= e^{\pi} \int x e^{\pi} dx + c$ $= e^{\pi} \left[x e^{\pi} - e^{x} + c \right]$ $= \pi - 1 + e^{\pi} c$ $4 = 0 - 1 + c$ $c = 5$ $y = \pi - 1 + 5e^{-\pi}$	7. dy , y = x	
$P(n) = 1$ $IF = e^{3 i dn}$ $= e^{2 i } \int x e^{2 i } dx + C$ $= e^{2 i } \left[x e^{2 i } - e^{2 i } + C \right]$ $= x - 1 + e^{2 i } C$ $= (1 + C)$ $= (2 + C)$ $= (3 +$	ohi J	
	P(x)=1	
$y = e^{-x} \int xe^{x} dx + C$ $= e^{-x} \left[xe^{x} - e^{x} + C \right]$ $= x - 1 + e^{-x}C$ $4 = 0 - 1 + C$ $C = S$ $y = x - 1 + 5e^{-x}$	Jida Jida	
$y = e^{-x} \int xe^{x} dx + C$ $= e^{-x} \left[xe^{x} - e^{x} + C \right]$ $= x - 1 + e^{-x}C$ $4 = 0 - 1 + C$ $C = S$ $y = x - 1 + 5e^{-x}$	Lt = e	
	-n (n ,	
	y = e) re ar + c	
4=0-1+C C=5 	$= e^{\pi} \left[\pi e^{\pi} - e^{\pi} + c \right]$	
4=0-1+C C=5 		
4=0-1+C C=5 	= 1 - 1 + e ⁻ⁿ c	
: y= n-1+5e-x		
: y= n-1+5e-x		
: y= n-1+5e-x	4 = 0 - 1 + C	
∴ y= n-1+5e-n		
Tutorial 6	y= n - 1 + 5e	
Tutorial 6		
	Tutorsal 6	
21. $\cos n - 2ny + (e^y - n^2)y' = 0$ $y(1) = 4$	11. $\cos \pi - 2\pi y + (e^{y} - \pi^{2})y' = 0$ $y(1) = 4$	

$$(x_{1}x_{1} - 2x_{1}) dx_{2} + (e^{x_{1}} - x_{1}) dy_{2} = 0$$

$$My_{1} = -2x_{1}$$

$$Nx_{2} = -2x_{2}$$

$$Equation is exact$$

$$d(x_{2}y) = \int_{x_{1}} dx_{2} + \int_{y_{1}} dy_{2}$$

$$\int_{x_{2}} (x_{1}y_{2} - x_{2}y_{1}) dx_{2} + c(y_{2}y_{2})$$

$$e^{x_{1}} - x_{2}y_{2} + c(y_{2}y_{2})$$

$$e^{x_{1}} - x_{2}y_{3} + c(y_{2}y_{3})$$

$$e^{x_{1}} - x_{2}y_{3} + c(y_{3}y_{3})$$

$$e^{x_{1}} - x_{2}y_{3} + e^{x_{2}} + e^{x_{3}} + e^{x_{3}} + e^{x_{3}} + e^{x_{3}} + e^{x_{3}}$$

$$f(x_{1}, y_{1}) = \sin(x_{1}) - (x_{1})^{2}(x_{1}) + e^{x_{3}}$$

$$f(x_{1}, y_{2}) = \sin(x_{1}) - (x_{2})^{2} + e^{x_{3}} + e^{x_{3}}$$

$$f(x_{1}, y_{2}) = \sin(x_{1}) - x_{2}y_{3} + e^{x_{3}} + e^{x_{3}}$$

$$f(x_{1}, y_{2}) = \sin(x_{1}) - x_{2}y_{3} + e^{x_{3}} + e^{x_{3}}$$

J. (L 7 SIM y) OIL + (LUB) y - 2y) Wy	
My = cos y	
$N_{\chi} = \cos y$	
My = Nn	
- Equation is exact	
fr = n+ siny	
f(x u) = [x + Sin u day + c(u)	
$f(x,y) = \int x + \sin y dx + c(y)$	
\mathcal{N}^{2} a sin \mathcal{N} . $\mathcal{C}(\mathcal{N})$	
$\frac{1}{2} + 2 \sin y + c(y)$	
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
$n\cos y - 2y = n\cos y + c'(y)$	
c'(y) = -2y ccy) = -y2	
ccy) = -y-	
$f(x,y) = \frac{x^2}{2} + \sin y - y^2$	
f(n,y) = C	
$\frac{\chi^2}{2} + \sin y - y^2 = c$	
6 $\left(\frac{y}{x^2} + 1\right) dx + \left(\frac{1}{x}\right) dy = 0$	
My = 1	
N_{x} $\frac{1}{x^{2}}$	
My + Nx	Special Integrating Factor

: Equation is not exact		,		J
		I My	- Nu _	(n)
$My - Nx \qquad \frac{1}{n} + \frac{1}{x} = \frac{1}{n}$		N	- Nw - {	
N(n,y)		0	R	
z 2 x 10		2. Na	- My = g(رپ
x ²) M	. ૧૮, યુર્ગે	
= 2 = 1	((n)			
2				
IF = e				
2 e m n				
2 12				
(y+n') du + n dy	e 0			
fr = x ² -y				
f(n,y) = \n2+y dn+c(8)			
3 3 3 4 5 6 4				
$= \frac{\pi^3}{3} + \frac{\pi}{3} + C(y)$				
2 = 1 + c'(y) c'(y) = 0 c(y) = c				
C, (A) = 0				
Cly) = C				
$\rho(y,y) = \alpha y^3$				
$f(x,y) = \frac{x^3}{3} + xy +$				
P(x, y) = C				
f(n,y) = c				
C = x3 + ny				
3				

) .								