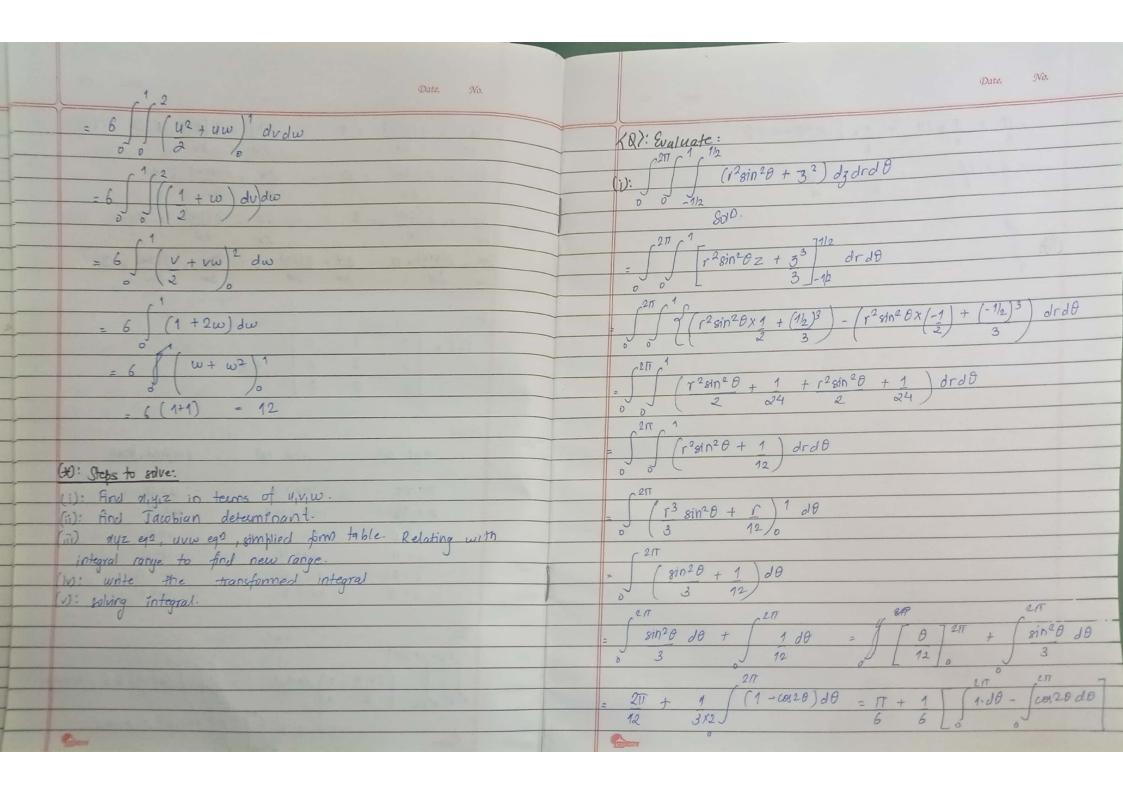
# Substitution in	· Hult	iple In	tegrals		
The same of the sa					
Jacobian Determinant:					
			and and	Sept.	
Jacobian of the transformation $x = g(u_1 v) \qquad y = h(u_1 v)  is$ $x = g(u_1 v) \qquad x = g(u_1 v)  is$					
n = g(uv)		4 =	h(u,v)	îs	
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0 (40) =	104	OV	. Khrti	44	
	24	24			-
	du	9v			
Technical designation of the companies and the companies of the companies					
Converting from cartesian to holar:					
Converting from cartesian to holar: $x = ros \theta$ $y = rsin \theta$ . $T(r\theta) = \partial C$ $\partial \theta$ $cos \theta$ $-rsin \theta$					
=( )	<del>dn</del>	32	1 9	2-1-0	
0 (1,0)		00	= 000	-rgin0 rces0	
	24		gno	10050	
lar de l					
$= r\cos^2\theta + r\sin^2\theta = r$					
171 10 19					
So, $dndy =  J  dr d\theta$					
Cartesian -+ cylindrical.					
Jacobian transformation of n=rcoso, y=rsino, 3=3					
Julio Bill I II d'Ojo I II	lon	22	da	3-3	_
J (r, 8,3) =		90	23		
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(Saginger Bos	de de	20	23		
Lab Unix X 2 of pm		dz			
	25	90	23		
Comme			05		

= cont (\$2 sint cos \$ cos 20 + \$2 cos trant sin20) + \$sint (\$ sin2 \$ cos 20 + \$ sin2 \$ sin20 \$) = { cos \$ x 5° sin \$ cos \$ ( cos = 0 + sin = 0) \frac{7}{4} + d g sin \$ x 5 8n = \$ \$ ( cos = 8 + sin = 0 ) \frac{3}{4} + = 32 cest / sin 4 + g2 sin 3 b = e2 sind  $g: \alpha = h(u_i v_i w), y = g(u_i v_i w), z = k(u_i v_i w)$ = If f(u,v,w) | J(u,u,w) | dududw F(r,0,3) rordodz  $= \iiint F(r, \phi, \theta) g^2 \sin \theta \, dg \, d\phi \, d\theta$ 

Greater



$$\frac{11 + 1 \times 2\pi - 1 \times [\cos 4\pi - \cos 0]}{6 + 6}$$

