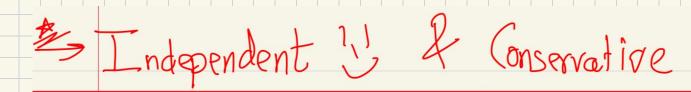
The	Steps for Evaluating Line Integrals !!
(5)) Steps for Evaluating Line Integrals 1
	How to parametricaline segments: r(t) = Pi·(1-t) + Pit for 0 = t = 1 [final]
(i)	parameterize using to lici) More complex, think and make smooth move.
	$X=f(t)$ and $u=a(t)$ and $a \le t \le k$
<u>(3)</u>	
	Find ds 2 1 her ston
	$dS = \sqrt{\left(\frac{dx}{dt}\right)^2 + \left(\frac{dy}{dt}\right)^2 + \left(\frac{dz}{dt}\right)^2} dt.$ $\chi'(t) dt$ $\chi'(t) dt$
	A A
>A	Plug in the x, y in fcx,y) in the integral
	INFO IN TEXASS IN THE MINES IN OF
9	Eval the integral from (t=15.
	Eval the integral from $f = b$. $f(f(t), g(t), h(t)) \cdot \sqrt{f'(t)^2 + (g'(t))^2}$ $t = a$.
	ξ-α,
	d /
	ds



(4) Conditions of Ch-16.

- $\int_{c} \overline{F} \cdot d\overline{r} \text{ is Independent} \iff \int_{c} \overline{F} \cdot d\overline{r} = 9$ $2 \quad \text{If we know, } \int_{c} \overline{F} \cdot d\overline{r} \text{ is independent, } THEN, \quad \overline{F} \text{ is } Conservative}$
- If F is (onservative, THEN, I a func. F)

 st. F = VF.
 - G FTC for line $\int_{C}^{\infty} \nabla f \cdot d\overline{r} = f(\overline{r}(b)) f(\overline{r}(a))$

Conservative Vector Field let F=(Pt+(Q) be a vector field on an open Simply-Connected region (set) D. Suppose that P and Q have confinuous 1st order particul denivoctives

How to check Conservative?
$$F = Pi + Qi$$
 Then, $\frac{\partial P}{\partial y} = \frac{\partial Q}{\partial x} \Rightarrow$ (onwealther Pi .

OF is conservative Pi first find:

Fig. Pi for Pi then, use the Pi form Pi then, use Pi then, Pi th