Parallel Lines ? May Nakoua (Only definition	
radmon last one all comber	6
* Parallel lines in 2D are two lines that	
never meet regardless the direction!	
Organia de la compansa de la compans	it to
* Parallel Lines in 3D are two lines tha	ो ड
never intersect + have the same direction!	
rametric equation of the line:	8
* In 3D, if two lines don't intersect but	
have different directions they're called	
non-intersecting lines	1 6
* The terms of Liftz being parallel in	3D
	3D (2)
(1) D. (directed vector of L.) 1 Dz (directed vector of	2)
have to be a multiple of the other.	6
$D_2 = CD_1$	
*constant	. 6
* if they're equal, they're the same line, so the i	ntersec-
tion is the whole line.	

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(2) They do not intersect!
          Question 8 if Lis X = 2+3t
                             y = -2 t
                                           LER
                             Z = 1 + 3t
                        L2 0 X = 12w
                           y = -8w
                                          WER
Z = 10 + 12 W
            Is Li parallel to Lz?
           Find Dip D2
 3
          D_1 = \langle 3, -2, 37 \rangle
 -
1
          D2 = 4 12, -8, 12>
           Is D1= CD,
          \langle 12, -8, 12 \rangle = c \langle 3, -2, 3 \rangle
3
          12 = C3 => C= 4
           -8 = C(-2) = C= 4 D2 = 4 D1
13
          12 = C.3 => C=4 D1 = + D2
3
13
         step 1) checking if Dz is a multiple of the other is Done
         Step 2) checking if they intersect
         choose apoint from Li by giving t a value
         Say t=0
12
         X = 2 + (3)(0) = 2
2
         y = y - 2(0) = 0
2
         Z = 1 + 3(0) = 1 + 8 - 5 - 1 = 9.0
2
2
          : point = (2,0,1)
2
        Check if this point lies on Le
9
```

2 = 12 W	
$0 = -8 \omega$	
$1 = 10 + 12\omega$	
each equation gives a different value of	
wy de	
:. P(2,0,1) doesn't lie on L2	
No intersection between L, & L2	
1.2 8 X & 12W	
ASW I SELECTION OF THE SECOND	
Perpendicular lines 8	
In 3D L, LL2 if only 8	
(1) $D_1 \cdot D_2 = 0$ and 19 built	
(2) They intersect in a point say Q	
VSI 8- 812>	
Question 1) Lo X = 2+4to7	
Question 1) $L_0^o \times = 2+4t^2$ $y = -4-2t^2$ $t \in \mathbb{R}$	
Z= 1+EJ1 8- S12	
12 = C3 + C= 4	
L28 X = 10-2W 2	
y = -3w \ WER	
$Z = -2 + 2\omega$	
Step 2) checking if they intersect	
IS LILL2?	
Ord West	
First, Find D. P D2 D1= 24,-2,17	
$D_2 = \langle -2, -3, 2 \rangle$	
$D.D_2 = 42 + -23 + 11.2$	
-8 + 6 + 2 = 0	
D. L D ₂ = 0 Notes not complete.	
OUR DEFINITION of PERPENDICULAR, check	
for 2 things. $D_1D_2 = 0$	
and they intersect in a	
point. Scanned with CamScann	

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