Fayed Raza 9/14/20

"QUIZ" for Lecture 3

E-MAILSCANNED .pdf OF COMPLETED QUIZ to DrZcalc3@gmail.com (Attachment: q3FirstLast.pdf) ASAP BUT NO LATER THAN Sept. 15, 8:00pm

NAME:

1. Find an equation of the plane that passes through the points $(0, 1, 1)$, $(1, 0, 1)$, $(1, 1, 0)$.

$a(x-x_0)+b(y-y_0)+((z-z_0)=0$

$\langle 1, 0, 1\rangle - \langle 0, 1, 1\rangle = \langle 1, -1, 0\rangle$

$\langle 1, 0, 1\rangle - \langle 1, 1, 0\rangle = \langle 0, -1, 1\rangle$

$x-y+z=2$

$\begin{vmatrix} i & j & k \\ 0 & -1 & 1 \\ 1 & -1 & 0 \end{vmatrix}$ $i[0-(1)]-j[0-1]+k(0-(-1))$

$1-j+k$ $\langle 1, -1, 1\rangle$ $a\ b\ c$ $(x-0)-(y+1)+(z-1)$

$x-y-1+z-1=0$

2. Find the intersection of the line

$$\mathbf{r}(t) = \langle 1, 1, 0\rangle + t\langle 0, 2, 4\rangle$$

and the plane

$x + y + z = 14$

$t+1+2t+4t=14$

$7t=13$

$t=\frac{13}{7}$

$r(t)=\langle t, 1+2t, 4t\rangle$

$t=x \quad 2t=y \quad 4t=z$

$x=\frac{13}{7} \quad y=\frac{26}{7} \quad \frac{52}{7}=z$

$\left(\frac{13}{7}, \frac{26}{7}, \frac{52}{7}\right)$