Assignment 2:

1. Find the angle between the vectors
   $<2,-1,1>$ and $<1,2,2>$

2. Find the volume of the parallelepiped three of whose coterminous edges are given by the vectors
   $<1,1,-1>, <1,2,5>, <3,-1,1>$

3. Find an equation of the plane that passes through the points with coordinates (1,1,3) , (1,− 1,2) and (1,1,1).

4. Find the point of intersection (if possible) of the lines

$x=3+2t \qquad y=1-4t \qquad z=2+2t$

and

$x=4+s \qquad y=-1+5s \qquad z=3-s$

5.Find an equation of the surface that is obtained by revolving a graph of $x = e^{-z}$ about the z-axis

6. A baseball is hit from a height of 2.5 feet above the ground with an initial velocity of 140 feet per second at an angle of 22° above the horizontal. Find the height of the baseball when the ball 375 feet from the place it was hit.

$$\frac{\partial f}{\partial x}, \frac{\partial f}{\partial y}, \frac{\partial f}{\partial z} \quad \text{at} \quad (1,-1,2) \quad \text{for } f(x,y,z) = z^{xy}$$