Math 53 - Multivariable Calculus

Quiz # 3

September 15th, 2011

Exercise 1. *Find the volume of the parallelepiped determined by the vectors* $\vec{\boldsymbol{A}} = \langle 6, 3, -1 \rangle$, $\vec{\boldsymbol{B}} = \langle 0, 1, 2 \rangle$, *and* $\vec{\boldsymbol{C}} = \langle 4, -2, 5 \rangle$.

Exercise 2. *Find the equation of the plane that passes through the point* $(6, 0, -2)$ *and contains the line* $x = 4 - 2t$, $y = 3 + 5t$, $z = 7 + 4t$.

Exercise 3. *Determine whether the planes* $x + 4y - 3z = 1$ *and* $-3x + 6y + 7z = 0$ *are perpendicular, parallel, or neither. If neither, find the angle between them.*