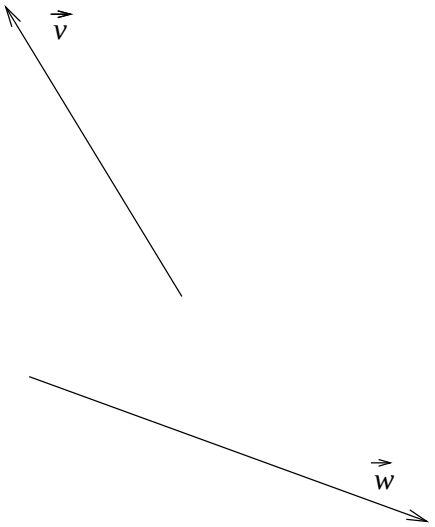
Math 324A & 324B Advanced Multivariable Calculus I **Spring 1997**

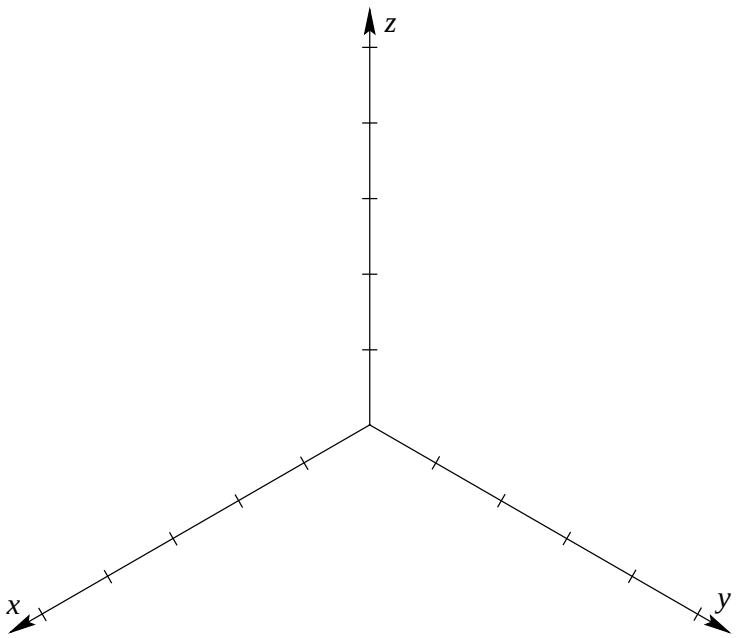
WORKSHEET #2: 4/2/97

1. (a) Using ruler and pencil, find the scalar projection of $\vec{v}$ onto $\vec{w}$.

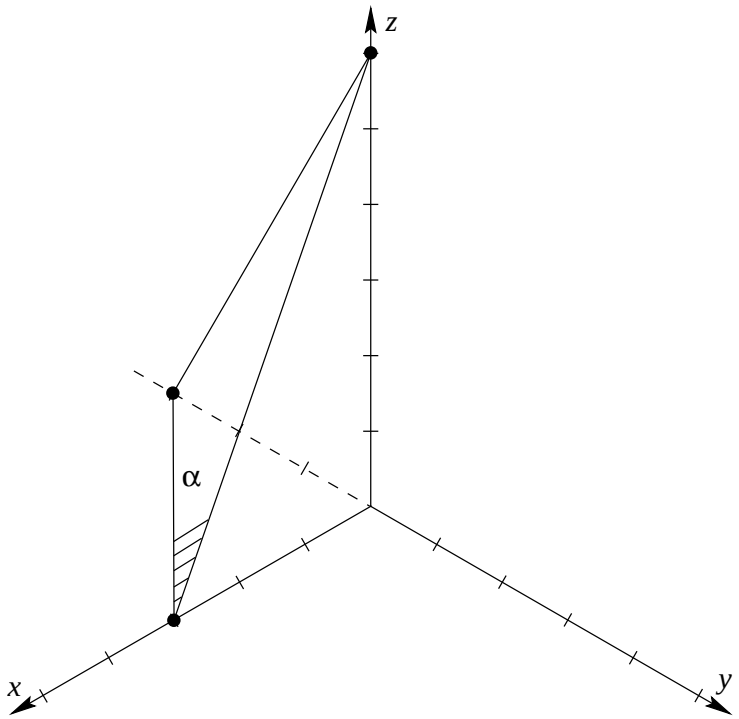
   (b) Using ruler and pencil, find $\vec{v} \cdot \vec{w}$.



2. Using different colors if possible, draw the planes α given by $x + 5y + 2z = 5$ and β given by $4x + z = 4$.



3. Find the equation of the plane α shown below.



4. The curve C in space is given by $(x, y, z) = (t^3, t^2, t)$. The plane α is orthogonal to C at the point $P(8, 4, 2)$. (This means α goes through P and is orthogonal to the tangent line of C at P.) Find the equation of α.