Quiz #2 (§13.7 – §14.2) **Name:** _____
MA 234-51 **21 January 1993**

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1. Find a symmetric set of equations for the line of intersection of the two planes given by $2x + y - z = 2$ and $x - y - 2z = 1$. *(5 points)*

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2. Consider the two lines given by $\dfrac{x+1}{1} = \dfrac{y-3}{2} = \dfrac{z+1}{2}$ and $\dfrac{x+2}{2} = \dfrac{y-2}{2} = \dfrac{z-3}{1}$. Notice that they are not parallel. Determine if they intersect in a single point or if they are skew. *(5 points)*

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3. Find an equation of the plane which contains the point $(1, 2, -1)$ and which also contains the line given by $\mathbf{r}(t) = (1, 0, 1) + t(2, 1, -1)$. *(5 points)*

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4. Let $\mathbf{f}(t) = \dfrac{\sin(2t)}{t}\,\mathbf{i} + e^{t^2}\,\mathbf{j} + \dfrac{\tan t}{\cos t}\,\mathbf{k}$. Find $\lim\limits_{t\to 0} \mathbf{f}(t)$, if it exists. *(5 points)*