CS 422/622 Quiz 1   Name _____

1. Show that the following two vectors are not perpendicular. (2 points)

$$\begin{bmatrix} 1 \\ 7 \\ 3 \end{bmatrix} \begin{bmatrix} 8 \\ -1 \\ 2 \end{bmatrix}$$

2. Find the inverse of the following matrix (5 points)

$$A = \begin{bmatrix} 1 & 2 & 0 \\ 0 & 4 & 1 \\ 3 & 0 & 4 \end{bmatrix}$$

3. Find the gradient of f. (3 points)

$$f(x, y, z) = x^2 y^3 z + yz^2 + 3x^4 + z + 1$$