Quiz 6, Linear

Name: _____

1. (4 points) If the equation $G\mathbf{x} = \mathbf{y}$ has more than one solution for some $\mathbf{y}$ in $\mathbb{R}^n$, can the columns of G span $\mathbb{R}^n$? Why or why not?

2. (2 points) Let $A = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$. Prove that $\det(kA) = k^2(\det A)$ where k is any real number.

3. (4 points) Calculate det A for $A = \begin{bmatrix} 4 & 0 & -7 & 3 & -5 \\ 0 & 0 & 2 & 0 & 0 \\ 7 & 3 & -6 & 4 & -8 \\ 5 & 0 & 5 & 2 & -3 \\ 0 & 0 & 9 & -1 & 2 \end{bmatrix}$.