Quiz 1
Math 341

Name:

Show *all* your work (algebraically or geometrically) for each and simplify. No credit is given without supporting work.

1. [1] Find a, and b so that $\frac{3+6i}{2+i} = a + bi$.

2. [4] The following were the result of applying the Gauss-Jordan elimination to the augmented matrix of a linear system. *Carefully* write out the general solutions to each system below or indicate that it is inconsistent.

$$\begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & -2 \\ 0 & 0 & 0 & 0 \end{bmatrix} \qquad \begin{bmatrix} 1 & 0 & 0 & 1 \\ 0 & 1 & 0 & 2 \\ 0 & 0 & 0 & 1 \end{bmatrix}$$

3. [5] Find the solution set to the following system of linear equations by using elementary row operations on the associated augmented matrix. Verify that the solutions you find are actually solutions.

$$\begin{array}{rrr} x_1 & +x_2 & = -2 \\ 5x_1 & +2x_2 & = 5 \\ x_1 & +2x_2 & = -7 \end{array}$$