Elementary Linear Algebra - MATH 2250 - Quiz 1

Name:

Consider the following system and answer ONLY one of the following questions.

$$\begin{cases} 2x + y = 5 \\ -x + 3y = 0 \end{cases}$$

1. Mark this as True or False: (no explanation required)

   ☐T ☐F If the two lines $2x + y = 5$ and $-x + 3y = 0$ meet at a point (a, b), then (a, b) is a solution to the above system.

   ☐T ☐F There are systems of equations that have no solutions.

2. Write the matrix form for the above system.

3. Draw the row picture of the above system.

4. Draw the column picture of the above system.

5. Give an example of a linear combination of two vectors $\begin{bmatrix} 2 \\ -1 \end{bmatrix}$ and $\begin{bmatrix} 1 \\ 3 \end{bmatrix}$.