Math 54 Fall 2017 Quiz 6

You have 20 minutes to complete this quiz. To receive full credit, you must justify your answers.

Name and section : _____

1. (5 points) Find a basis for the null space of the matrix

$$A = \begin{bmatrix} 1 & 4 & 2 & 3 \\ 0 & -1 & 1 & 2 \\ 2 & 5 & 7 & 12 \end{bmatrix}.$$

2. (5 points) Use an inverse matrix to find $[x]_{\mathcal{B}}$ for the vector $x \in \mathbb{R}^2$ and basis $\mathcal{B}$ of $\mathbb{R}^2$ given below.

$$\mathcal{B} = \left\{ \begin{bmatrix} 3 \\ 2 \end{bmatrix}, \begin{bmatrix} -3 \\ -4 \end{bmatrix} \right\} \qquad x = \begin{bmatrix} 6 \\ 6 \end{bmatrix}$$