King Fahd University of Petroleum and Minerals
Quiz: 2 Math 260 Semester: 143 Duration: 30 minutes

Full Name: ID:
Section and Serial number:

Question 1 Find the inverse of the given matrix

$$A = \begin{bmatrix} 1 & -1 & 3 \\ 6 & 4 & -3 \\ 2 & 3 & -4 \end{bmatrix}$$

Question 2 Given that A and B are two square matrices of the same size. If $|A| = 2$ and $|B| = 3$ then find $|(A^{-1}B)^T A^3 B^2|$.

Question 3 a) Show that the following system has a unique solution:

$$\begin{cases} -2x+2y-z+2t & =0 \\ 2x+y+2z-3t & =0 \\ x-y-z+t & =1 \\ 3x-3y+z-t & =0 \end{cases}$$

b) Find t only.

Question 4 Let $V = \mathrm{R}^3$. For any $a = (x,y,z) \in V$ and any $\alpha \in \mathrm{R}$, the multiplicative operator is given by:

$$\alpha \cdot a = (\alpha x, 1, \alpha z).$$

Show that $(V,+,\cdot)$ is not a vector space over R.