PROBLEMS AND SOLUTIONS - MATRICES AND DETERMINANTS

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PLEASE NOTE THAT YOU CANNOT ALWAYS USE A CALCULATOR ON THE ACCUPLACER - COLLEGE-LEVEL MATHEMATICS TEST! YOU MUST BE ABLE TO DO SOME PROBLEMS WITHOUT A CALCULATOR!

Problem 1:

Solve the following system of equations using Gaussian Elimination. Express your answer as coordinates in 3-space (x, y, z).

$$\begin{aligned} -2x - 4y - 2z &= -18 \\ -4x - y + 2z &= 10 \\ 4x + 3y + 2z &= 10 \end{aligned}$$

Problem 2:

Solve the following system of equations using Gaussian Elimination. Express your answer as coordinates in 3-space (x, y, z).

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

Problem 3:

Solve the following system of equations using Gaussian Elimination. Express your answer as coordinates in 3-space (x, y, z).

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

Problem 4:

Find the determinant of $\begin{bmatrix} 5 & 6 \\ 7 & 3 \end{bmatrix}$.

Problem 5:

Find the determinant of $\begin{bmatrix} 2 & 4 \\ -3 & -5 \end{bmatrix}$.

Problem 6:

Find the determinant of $\begin{bmatrix} -2 & 0 \\ -6 & 3 \end{bmatrix}$.

SOLUTIONS

You can find detailed solutions below the link for this problem set!

1. ***(−2,4,3)***	2. No Solutions	3. ***(2a - 1, a, a)***, where ***a*** is any real number
4. ***-27***	5. ***2***	6. ***-6***