Math 270 HW#1

Name:_____ Date:_____

Show your work very clearly, neatly, and box your final answer.

One Side Only

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1. Use Elementary Row Operations to solve

$$\begin{cases} x + y + 2z = 9 \\ 2x + 4y - 3z = 1 \\ 3x + 6y - 5z = 0 \end{cases}$$

2. Find the number of solutions for the following nonlinear system of equations if $0 \le \alpha \le 2\pi, 0 \le \beta \le 2\pi$, and $0 \le \gamma \le 2\pi$.

$$\begin{cases} 2\sin\alpha & +2\cos\beta & +3\tan\gamma & = 0 \\ 4\sin\alpha & +5\cos\beta & +3\tan\gamma & = 0 \\ -\sin\alpha & -5\cos\beta & +5\tan\gamma & = 0 \end{cases}$$

3. Find the coefficients of a third degree polynomial function that its graph contains the points $(1,7),(3,-11),(4,-14)$, and $(-1,1)$.