

PRINT Your Name: _____

There are 10 problems on 6 pages. Each problem is worth 5 points. SHOW your work. **CIRCLE** your answer. **CHECK** your answer whenever possible. **No Calculators.**

1. Find the general solution of the following system of linear equations:

$$\begin{aligned}x_1 + x_2 + x_3 &= 6 \\x_2 + 2x_3 &= 5.\end{aligned}$$

$$\left[\begin{array}{ccc|c} 1 & 1 & 1 & 6 \\ 0 & 1 & 2 & 5 \end{array} \right]$$

$$R1 \rightarrow R1 - R2$$

$$\left[\begin{array}{ccc|c} 1 & 0 & -1 & 1 \\ 0 & 1 & 2 & 5 \end{array} \right]$$

$$x_1 = 1 + x_3$$

$$x_2 = 5 - 2x_3$$

$$x_3 = x_3$$