

**Drill Quiz Number 1 for Chapter 10 Section 1**

For each system of equations below, write the system as an augmented matrix and use Gauss-Jordan elimination to determine whether or not the system has a solution. Use the notation in the text (for example  $4R_1 + (-2)R_2 \rightarrow R_2$ ) to label your steps.

Use your own paper. Organize your work so that it is easy to read.

$$\begin{array}{rcl} 1. & x & -2y & +z & = & 1 \\ & & y & +2z & = & 5 \\ & x & +y & +3z & = & 8 \end{array}$$

$$\begin{array}{rcl} 2. & x & +y & +6z & = & 3 \\ & x & +y & +3z & = & 3 \\ & x & +2y & +4z & = & 7 \end{array}$$

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

Answers:

#1.  $x = 1, y = 1, z = 2$

#2.  $x = -1, y = 4, z = 0$

#3. no solutions