

Homework: Matrices II

name: _____

For each system of equations below, write the system as an augmented matrix and row reduce to find the unique solution. After each matrix that you write down while row reducing, say which elementary row operation you are use to get to the next matrix. Express your answer as (x, y, z) . Please check the answer in the back of the book, if it has ones, and make any corrections necessary.

1. Problem #15 page 526.

$$x - 2y + z = 1$$

$$y + 2z = 5$$

$$x + y + 3z = 8$$

2. Problem #17 page 526.

$$x + y + z = 2$$

$$2x - 3y + 2z = 4$$

$$4x + y - 3z = 1$$

3. Problem #16 page 526.

$$x + y + 6z = 3$$

$$x + y + 3z = 3$$

$$x + 2y + 4z = 7$$

4. Problem #24 page 526.

$$10x + 10y - 20z = 60$$

$$15x + 20y + 30z = -25$$

$$-5x + 30y - 10z = 45$$

5. Give an example of a matrix that is the augmented matrix for an inconsistent system of equations. Explain how you know the system for your matrix has no solution.