Math 1500: Section 2.2

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

1) Pivot the matrix $\begin{bmatrix} 1 & 3 \\ 4 & -2 \end{bmatrix}$ about the element 3. 1) _____

2) Pivot the matrix $\begin{bmatrix} 1 & 3 & 5 \\ 5 & 6 & 2 \end{bmatrix}$ about the element 6. 2) _____

3) Find three specific solutions to a system of linear equations whose general solution is 3) _____
y = any value
w = 2x - z
x = 3 - 6y
z = 2

For the system of equations, state whether there is one, none, or infinitely many solutions. If there are one or more solutions, give all values of x, y, and z that satisfy the system.

4) 4) _____

$$\begin{cases} x + 3y + 2z = 4 \\ y - 3z = -1 \\ z = 17 \end{cases}$$

5) 5) _____

$$\begin{cases} x - y + 3z = 0 \\ z = 7 \end{cases}$$

6) 6) _____

$$\begin{cases} x + y - z = 1 \\ y - 2z = 1 \\ x + y - z = 2 \end{cases}$$

7) When solving a system of linear equations with the unknowns x, y, and z using the Gauss-Jordan elimination method, the following matrix was obtained. What can be concluded about the general solution of the system? 7) _____

$$\left[\begin{array}{ccc|c} 1 & 0 & 2 & 4 \\ 0 & 1 & 1 & 3 \end{array}\right]$$

8) When solving a system of linear equations with the unknowns x, y, and z using the Gauss-Jordan elimination method, the following matrix was obtained. What can be concluded about the solution of the system? 8) _____

$$\left[\begin{array}{ccc|c} 1 & 0 & 0 & 4 \\ 0 & 1 & 1 & 3 \\ 0 & 0 & 0 & 0 \end{array}\right]$$