MAT 171 Homework Section 8.2: Systems of Linear Equations in Three Variables

Name: _____

1) Determine if the ordered triple $(2, -1, 3)$ is the solution of the system:

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

2) Solve the system:

$$\begin{cases} 4x - y + 2z = 11 \\ x + 2y - z = -1 \\ 2x + 2y - 3z = -1 \end{cases}$$

3) Solve the system:

$$\begin{cases} 2x - 4y + 3z = 17 \\ x + 2y - z = 0 \\ 4x - y - z = 6 \end{cases}$$

4) Find the quadratic function $y = ax^2 + bx + c$ whose graph passes through the given points:
$(-1, 6)$, $(1, 4)$,, $(2, 9)$

$$2$$

5) At a college production of *A Streetcar Named Desire*, 400 tickets were sold. The ticket prices were $8, $10, and $12, and the total income from ticket sales was $3,700. how many tickets of each type were sold if the combined number of $8 and $10 tickets were sold was 7 times the number of $12 tickets sold?