MAT 171 - CLASS NOTES - Section 8.2: Systems of Linear Equations in Three Variables

1) Determine if the ordered triple $(5, -3, -2)$ is the solution of the system:

$$\begin{cases} x + y + z = 0 \\ x + 2y - 3z = 5 \\ 3x + 4y + 2z = -1 \end{cases}$$

2) Solve the system:

$$\begin{cases} 2x + 3y + 7z = 13 \\ 3x + 2y - 5z = -22 \\ 5x + 7y - 3z = -28 \end{cases}$$

3) Find the quadratic function $y = ax^2 + bx + c$ whose graph passes through the given points: $(-2, 7)$, $(1, -2)$, $(2, 3)$

4) A person invested \$17,000 for one year, part at 10%, part at 12%, and the remainder at 15%. The total annual income from these investments was \$2,110. The amount of money invested at 12% was \$1,000 less than the amount invested at 10% and 15% combined. Find the amount invested at each rate.