

Abdullah Tahir 002

Quiz 2

L.A

10/10

Q:1

$$125 + 350 = x_1 + x_4 \quad A$$

$$400 + 225 = x_1 + x_2 \quad B$$

$$800 + 250 = x_2 + x_3 \quad C$$

$$600 + 300 = x_3 + x_4 \quad D$$

$$475 = x_1 + x_4$$

$$625 = x_1 + x_2$$

$$1050 = x_2 + x_3$$

$$900 = x_3 + x_4$$

$$-475 = -x_1 + x_4$$

$$625 = x_1 + x_2$$

$$150 = x_2 - x_4$$

$$\left[\begin{array}{cccc|c} 1 & 0 & 0 & 1 & 475 \\ 1 & 1 & 0 & 0 & 625 \\ 0 & 1 & 1 & 0 & 1050 \\ 0 & 0 & 1 & 1 & 900 \end{array} \right]$$

$$\left[\begin{array}{cccc|c} 1 & 0 & 0 & 1 & 475 \\ 0 & 1 & 0 & -1 & 150 \\ 0 & 1 & 1 & 0 & 1050 \\ 0 & 0 & 1 & 1 & 900 \end{array} \right]$$

$R_2 - R_1$

$$\left[\begin{array}{cccc|c} 1 & 1 & 0 & 0 & 625 \\ 0 & 1 & 0 & -1 & 150 \\ 0 & 0 & 1 & 1 & 900 \\ 0 & 0 & 0 & 0 & 0 \end{array} \right]$$

$R_1 + R_2$

$$\left[\begin{array}{cccc|c} 1 & 1 & 0 & 0 & 625 \\ 0 & 1 & 0 & -1 & 150 \\ 0 & 0 & 1 & 1 & 900 \\ 0 & 0 & 0 & 0 & 0 \end{array} \right]$$

$R_2 + R_3$

$$x_1 + x_2 = 625$$

$$x_2 + x_3 = 1050$$

$$x_3 + x_4 = 900$$

$$x_1 = 475 \quad x_2 = 150$$

$$x_4 = 0 \quad x_3 = 900$$

Q:2

$$x + y + z = 20$$

$$4x + 6y + 8z = 108$$

$$2x + 3y + 2z = 46$$

$$x = 20 - y - z$$

$$2(20 - y - z) + 3y + 2z = 46$$

$$40 - y = 46$$

$$y = 20 - 6 - z$$

$$4(14 - z) + 6(6) + 8z = 108$$

$$92 + 4z = 108$$

$$z = 4$$

$$x = 14 - 4$$

$$x = 10$$

$$y = 6$$