

ALUMNA: MONICA ISABEL MORALES TOLEDO

1. $5x + 2y + 4z = 12$
 $-3x + 3x + 3z = 56$
 $2x - y - z = 69$

• $5x + 2y + 4z = 12$
(2) $2x - y - z = 69(2)$ → $5x + 2y + 4z = 12$
 $4x - 2y - 2z = 138$

 $9x + 2z = 150$

• $-3x + 3x + 3z = 56$
(3) $2x - y - z = 69(3)$ → $-3x + 3y + 3z = 56$
 $6x - 3y - 3z = 207$

 $3x = 263$

• $x = \frac{263}{3}$ → $9x + 2z = 150$
 $x = \frac{263}{3}$

• $9\left(\frac{263}{3}\right) + 2z = 150$ → $789 + 2z = 150$
 $2z = 150 - 789$
 $2z = -639$
 $z = -\frac{639}{2}$

• $z = -\frac{639}{2}$ • $x = \frac{263}{3}$

$2x - y - z = 69$
• $2\left(\frac{263}{3}\right) - y - \left(-\frac{639}{2}\right) = 69$ → $\frac{526}{3} - y + \frac{639}{2} = 69$
 $\frac{2969}{6} - y = 69$
 $-y = 69 - \frac{2969}{6}$
 $-y = -\frac{2555}{6}$
 $y = \frac{2555}{6}$

Solución:

$x = \frac{263}{3}$ $z = -\frac{639}{2}$
 $y = \frac{2555}{6}$

Scribe

$$2. \begin{cases} 5x - 2y - 3z = 22 \\ x + 2y + 9z = 22 \\ -4x + 3y + 8z = 45 \end{cases}$$

$$x + 2y + 9z = 22$$

$$-4x + 3y + 8z = 45$$

$$5x - 2y - 3z = 22 \rightarrow 6x + 6z = 44$$

$$x + 2y + 9z = 22$$

$$\begin{array}{r} 5x - 2y - 3z = 22(3) \\ -4x + 3y + 8z = 45(2) \end{array} \rightarrow \begin{array}{r} 15x - 6y - 9z = 66 \\ -8x + 6y + 16z = 90 \\ \hline 7x + 7z = 156 \end{array}$$

$$\begin{cases} 6x + 6z = 44 \\ 7x + 7z = 156 \end{cases} \rightarrow \begin{array}{r} 42x + 42z = 308 \\ -42x - 42z = -936 \\ \hline 0 = -628 \end{array}$$

No tiene Solución.

$$3. \quad 12x - 14y - 45z = 120$$

$$654x + 120y - 3z = -600 \div (3) = 218x + 40y - z = -200$$

$$-5x - 2y + z = 60$$

$$\begin{array}{r} 12x - 14y - 45z = 120 \rightarrow 12x - 14y - 45z = 120 \\ (45) \quad -5x - 2y + z = 60 \quad (45) \quad -225x - 90y + 45z = 2700 \\ \hline -213x - 104y = 2820 \end{array}$$

$$\begin{array}{r} 218x + 40y - z = -200 \rightarrow 218x + 40y - z = -200 \\ -5x - 2y + z = 60 \quad \quad \quad -5x - 2y + z = 60 \\ \hline -213x - 104y = 2820 \quad \quad \quad 213x + 38y = -140 \end{array}$$

$$\begin{array}{r} -213x - 104y = 2820 \\ 213x + 38y = -140 \\ \hline -66y = 2680 \end{array}$$

$$213x + 38 \left(\frac{-1340}{33} \right) = -140$$

$$y = \frac{2680}{66} = \frac{-1340}{33}$$

$$x = \frac{46300}{7029}$$

$$x = \frac{46300}{7029}$$

$$218 \left(\frac{46300}{7029} \right) + 40 \left(\frac{-1340}{33} \right) - z = -200$$

$$\frac{10093400}{7029} - \frac{53600}{33} - z = -200$$

Solución:

$$- \frac{1323400}{7029} - z = -200$$

$$x = \frac{46300}{7029}$$

$$7029$$

$$z = \frac{82400}{7029}$$

$$-z = -200 + \frac{1323400}{7029}$$

$$y = \frac{-1340}{33}$$

$$33$$

$$-z = \frac{-82400}{7029}$$

$$z = \frac{82400}{7029}$$

$$4. \begin{cases} -x + 3y - z = 40 \\ x + 2y = 50 \\ 2x - 6y - 2z = 30 \end{cases}$$

$$\begin{array}{r} -x + 3y - z = 40 \\ x + 2y = 50 \\ \hline 5y - z = 90 \end{array}$$

$$\begin{array}{r} x - 2y = 50 \\ 2x - 6y + 2z = 30 \\ \hline -2x - 4y = -100 \\ 2x - 6y + 2z = 30 \\ \hline -10y + 2z = -70 \end{array}$$

$$\begin{array}{r} (-2) \ 5y - z = 90 \\ 10y + 2z = -70 \\ \hline -10y - 2z = 90 \\ -10y + 2z = -70 \\ \hline 0 = 20 \end{array}$$

No Tiene Solución.