Intermediate Algebra Skill
Solving 3 x 3 Linear System by Addition

Solve the following Linear Systems of Equations by Addition:

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

8) $\begin{cases} x+4y+3z=2 \\ 2x+y+z=10 \\ -x+y+2z=8 \end{cases}$

2) $\begin{cases} 4x-y-3z=1 \\ 8x+y-z=5 \\ 2x+y+2z=5 \end{cases}$

9) $\begin{cases} 2x-5y-2z=-4 \\ 7x+2y-5z=-6 \\ -2x+3y+2z=4 \end{cases}$

3) $\begin{cases} p-2q-3r=3 \\ 2p-q-2r=4 \\ 4p+5q+6r=4 \end{cases}$

10) $\begin{cases} 3x+y=2 \\ x+3y+z=0 \\ x+z=2 \end{cases}$

4) $\begin{cases} 3p+2r=11 \\ q-7r=4 \\ p-6q=1 \end{cases}$

11) $\begin{cases} -3x+y-2z=8 \\ -x+2y-z=5 \\ 2x+y+z=-3 \end{cases}$

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

12) $\begin{cases} 2x+2y=0 \\ 4x+4z=4 \\ 2x+y+z=2 \end{cases}$

6) $\begin{cases} 2x-3y+5z=27 \\ x+2y-z=-4 \\ 5x-y+4z=27 \end{cases}$

13) $\begin{cases} 2x+5y-3z=-11 \\ -5x+3y-2z=-7 \\ 3x-2y+5z=12 \end{cases}$

7) $\begin{cases} r-2s+3t=6 \\ 2r-s-t=-3 \\ r+s+t=6 \end{cases}$

14 $\begin{cases} x+y+z=-5 \\ 2x+3y-2z=8 \\ x-y+4z=-21 \end{cases}$

Intermediate Algebra Skill

Answers to Solving 3 x 3 Linear System by Addition

1) *Dependent*

2) $\left(\dfrac{3}{2}, -4, 3\right)$

3) $(2, -2, 1)$

4) $\left(4, \dfrac{1}{2}, -\dfrac{1}{2}\right)$

5) $\left(-1, -\dfrac{6}{7}, \dfrac{11}{7}\right)$

6) $(2, -1, 4)$

7) $(1, 2, 3)$

8) $(4, -8, 10)$

9) $(2, 0, 4)$

10) $\left(\dfrac{8}{9}, -\dfrac{2}{3}, \dfrac{10}{9}\right)$

11) *Dependent*

12) *NoSolution*

13) $(0, -1, 2)$

14) $(-3, 2, -4)$