

3. $2x+z=13$ (1)
 $x+3y-z=14$ (2)
 $3x-7y+z=14$ (3)

(1) $2x+z=13$
 $x+3y-z=14$
 $3x+3y=27$
 $x+y=9$ (4)

(2) $x+3y-z=14$
 $3x-7y+z=14$
 $4x-4y=28$
 $x-y=7$ (5)

(3) $x+y=9$
 $x-y=7$
 $2x=16$

(4) $2x=16$
 $x=8$
(5) $x+y=9$
 $8+y=9$
 $y=9-8$
 $y=1$

(6) $2x+z=13$
 $2(8)+z=13$
 $16+z=13$
 $z=13-16$
 $z=-3$

$$\begin{bmatrix} 2 & 0 & 1 & 13 \\ 1 & 3 & -1 & 14 \\ 3 & -7 & 1 & 14 \end{bmatrix}$$

(8, 1, -3)

4. $4z-27=5(x-2y)$
 $2y-z-4=-3x$
 $-16+6z=2(-x+y)$

$4z-27=5x-10y$
 $3x+2y-z=4$
 $-16+6z=-2x+2y$

$-5x+10y+4z=27$ (1)
 $3x+2y-z=4$ (2)
 $2x-2y+6z=16$ (3)

$$\begin{bmatrix} -5 & 10 & 4 & 27 \\ 3 & 2 & -1 & 4 \\ 2 & -2 & 6 & 16 \end{bmatrix}$$

(1) $-5x+10y+4z=27$
 $3x+2y-z=4$ or 4
 $-5x+10y+4z=27$
 $12x+8y-4z=16$
 $7x+18y=43$ (4)

(2) $3x+2y-z=4$ or 6
 $2x-2y+6z=16$
 $18x+12y-6z=24$
 $2x-2y+6z=16$
 $20x+10y=40$
 $2x+y=4$ (5)

(3) $7x+18y=43$
 $2x+y=4$ or -18
 $7x+18y=43$
 $-36x-18y=-72$
 $-29x=-29$

(4) $-29x=-29$
 $-29 \rightarrow -29$
 $x=1$

(5) $2x+y=4$
 $2(1)+y=4$
 $2+y=4$
 $y=4-2$
 $y=2$

(6) $3x+2y-z=4$
 $3(1)+2(2)-z=4$
 $3+4-z=4$
 $7-z=4$
 $7-4=z$
 $z=3$

~~$2x-2y+6z=16$~~
 ~~$2(1)-2(2)+6z=16$~~
 ~~$2-4+6z=16$~~
 ~~$-2+6z=16$~~
 ~~$6z=18$~~
 ~~$z=3$~~
(1, 2, 3)