EX 1

$$2x + y + 3z = 5 \quad (1)$$
$$2y - z = 5 \quad (2)$$
$$2x + y + 2z = 6 \quad (3)$$

(1) & (2) ← Eliminate Some Variable → (2) & (3)

Eliminate z

$2x + y + 3z = 5$ (1)
$2y - z = 5$ (2)

$2y - z = 5$ (2)
$2x + y + 2z = 6$ (3)

$2x + y + 3z = 5$
$6y - 3z = 15$

$4y - 2z = 10$
$2x + y + 2z = 6$

$2x + 7y = 20$

$2x + 5y = 16$

$2x + 7y = 20$
$2x + 5y = 16$

Solve for x & y ⟶ $x = 3$, $y = 2$

Subst in any ⟶ $z = -1$

Ex2.

$$2x + 2y + 3z = 5 \quad \text{—} \; (1)$$
$$x + 3y + 2z = 1 \quad \text{—} \; (2)$$
$$x + y + 2z = 3 \quad \text{—} \; (3)$$

(1) + (2)

Eliminate Same Variable

x

(1) + (3)

$$2x + 2y + 3z = 5$$
$$x + 3y + 2z = 1$$

$$\begin{array}{r} 2x + 2y + 3z = 5 \\ -2x - 6y - 4z = -2 \\ \hline -4y - z = 3 \end{array}$$

$$2x + 2y + 3z = 5$$
$$x + y + 2z = 3$$

$$\begin{array}{r} 2x + 2y + 3z = 5 \\ -2x - 2y - 4z = -6 \\ \hline -z = -1 \end{array}$$

$$z = 1$$

$$-4y - z = 3$$
$$-4y - 1 = 3$$
$$\Longrightarrow y = -1$$

Subst in any, $x = 2$