

$$x + 3y + 2z = 2 \quad \text{--- ①}$$

$$6x - 2y = -4 \quad \text{--- ②}$$

$$x - 4y + z = 6 \quad \text{--- ③}$$

$$-2 * \textcircled{3} + \textcircled{1}$$

$$-2x + 8y - 2z = -12$$

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

$$-x + 11y = -10$$

$$-x + 11y = -10 \quad \text{--- ④}$$

$$6 * \textcircled{4} + \textcircled{2}$$

$$-6x + 66y = -60$$

$$6x - 2y = -4$$

$$64y = -64$$

$$64y = -64$$

$$y = \frac{-64}{64} = -1$$

$$y = -1$$

$$6x - 2(-1) = -4$$

$$6x + 2 = -4$$

$$6x = -4 - 2 \Rightarrow 6x = -6$$

$$\underline{\underline{x = -1}}$$

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

$$(-1) - 4(-1) + z = 6$$

$$-1 + 4 + z = 6$$

$$3 + z = 6$$

$$z = 6 - 3$$

$$z = 3.$$

$$(x, y, z)$$

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