1.

$$7 \cdot \begin{bmatrix} 5 & 10 \\ 7 & 12 \\ 11.3 & 5 \\ 25 & 30 \end{bmatrix} + 2 \cdot \begin{bmatrix} 5 & 10 \\ 7 & 12 \\ 11.3 & 5 \\ 25 & 30 \end{bmatrix} = \begin{bmatrix} 35 & 70 \\ 49 & 84 \\ 79.1 & 35 \\ 175 & 210 \end{bmatrix} + \begin{bmatrix} 10 & 20 \\ 14 & 24 \\ 22.6 & 10 \\ 50 & 60 \end{bmatrix} = \begin{bmatrix} 45 & 90 \\ 63 & 108 \\ 101.7 & 45 \\ 225 & 270 \end{bmatrix}$$

2.

$$\begin{cases} 3x - 2y + 5z = 7 \\ 7x + 4y - 8z = 3 \\ 5x - 3y - 4z = -12 \end{cases} = \left(\begin{array}{l} 15x - y - 7z = -2 \\ y = 15x - 7z + 2 \end{array} \right) = \begin{array}{l} x = 1 \\ y = 3 \\ z = 2 \end{array}$$

1) $\left| 3x - 2(15x - 7z + 2) + 5z = 7 \right| = \left| 3x - 30x + 14z - 4 + 5z = 7 \right| =$
$= \left| -27x + 19z = 11 \right|$

2) $5x - 3(15x - 7z + 2) - 4z = -12$

$5x - 45x + 21z - 6 - 4z = -12$

$-40x + 17z = -6$

$\begin{cases} -27x + 19z = 11 \\ -40x + 17z = -6 \end{cases}$ ⟹ $13x + 2z = 17$

$z = \dfrac{(17 - 13x)}{2}$

3) $\left(-27x + 19\left(\dfrac{17 - 13x}{2} \right) = 11 \right) \times 2 \Rightarrow -54x + 323 - 247x = 22$

$-301x = -301$

$x = 1$

$z = \dfrac{17 - 13x}{2} = 2$

$y = 15 - 14 + 2 = 3$

Всё линейное

$$\begin{cases} x^2 + yx - 9 = 0 \\ x - y/5 = 0 \end{cases} \quad x = y/5 \text{ 1) } x^2 + 5x^2 - 9 = 0 \quad x = \frac{3}{\sqrt{6}}$$

$$5x = y \qquad x^2 = \frac{9}{6}$$

$$1) \ \frac{y^2}{25} + \frac{y^2}{5} - 9 = 0 \qquad y^2 + 5y^2 = 9 \cdot 25 \qquad 6y^2 = 225 \quad y^2 = 37{,}5$$

$$y = 6{,}12$$

$$x = \frac{3}{\sqrt{6}} \qquad y = 6{,}12$$

первое — нелинейное
второе — линейное
всё — нелинейное

4. $S = 48$ $\qquad P = 28$ $\qquad$ hud-?

$$\begin{cases} 2x + 2y = 28 \\ xy = 48 \end{cases} \qquad \begin{cases} x + y = 14 \\ xy = 48 \end{cases} \qquad x = 14 - y$$

$$(14 - y) \cdot y = 48 \qquad -y^2 + 14y = 48 \qquad y^2 - 14y + 48 = 0$$

$$D = 196 - 192 = 4 \qquad x_1 = 8$$
$$y_1 = \frac{14 - 2}{2} = 6 \qquad x_2 = 6$$
$$y_2 = \frac{14 + 2}{2} = 8$$

$$D = 8 \, м \qquad h = 6 \, м$$