① $7\times\begin{bmatrix}5 & 10\\ 7 & 12\\ 11{,}3 & 5\\ 25 & 30\end{bmatrix}+2\times\begin{bmatrix}5 & 10\\ 7 & 12\\ 11{,}3 & 5\\ 25 & 30\end{bmatrix}=9\times\begin{bmatrix}5 & 10\\ 7 & 12\\ 11{,}3 & 5\\ 25 & 30\end{bmatrix}=$

$=\begin{bmatrix}45 & 90\\ 63 & 108\\ 101{,}7 & 45\\ 225 & 270\end{bmatrix}$

② $\begin{cases}3x-2y+5z=7\\ 7x+4y-8z=3\\ 5x-3y-4z=-12\end{cases}$

① $z=1{,}4-0{,}6x+0{,}4y$

② $11{,}8x+0{,}8y=14{,}2$

$5{,}9x+0{,}4y=7{,}1$

$0{,}4y=7{,}1-5{,}9x$

$z=1{,}4-0{,}6x+7{,}1-5{,}9x$

$z=8{,}5-6{,}5x$

③ $5x=-12+3y+4(8{,}5-6{,}5x)$

$5x+26x=22+3y$

$3y=31x-22\quad(:7{,}5)$

$0{,}4y=\frac{31}{7{,}5}\cdot x-\frac{22}{7{,}5}$ $\quad=7{,}1-5{,}9x$

$31x-22=7{,}5(7{,}1-5{,}9x)$

$31x+44{,}25x=22+53{,}25$

$75{,}25x=75{,}25$

$x=1$

$3y=31\cdot1-22$

$3y=9$

$y=3$

$z=8{,}5-6{,}5\cdot1$

$z=2$

Ответ: $x=1, y=3, z=2$

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⑤ $\begin{cases} a \times b = 48 \\ 2(a+b) = 28 \end{cases}$

$a + b = 14$

$a = 14 - b$

$(14-b) \times b = 48$

$14b - b^2 = 48$

$b^2 - 14b + 48 = 0$

$D = (-14)^2 - 4 \cdot 48$ (196, 192)

$D = 4$

$b = \frac{14 \pm 2}{2} \Rightarrow b = 8;\ b = 6$

$a \times 8 = 48$

$a = \frac{48}{8} = 6$

$a \times 6 = 48$

$a = \frac{48}{6} = 8$

Ответ: 8 и 6

2.2 $\begin{cases} x^2 + yx - 9 = 0 \\ x - \frac{y}{5} = 0 \end{cases}$

$x = \frac{y}{5}$

$5x = y$

$x^2 + 5x^2 - 9 = 0$

$6x^2 = 9$

$x = \sqrt{1,5}$

$1,5 + y\sqrt{1,5} - 9 = 0$

$y\sqrt{1,5} = 7,5$

$y = \frac{7,5}{\sqrt{1,5}}$

Ответ: $x = \sqrt{1,5};\ y = \frac{7,5}{\sqrt{1,5}}$

$x = -\sqrt{1,5};\ y = -\frac{7,5}{\sqrt{1,5}}$