

$$\begin{cases} 3x - 2y + 5z = 7 & \text{Линейная система, линейные уравнения} \\ 7x + 4y - 8z = 3 \\ 5x - 3y - 4z = -12 \end{cases}$$

$$\begin{vmatrix} 3 & -2 & 5 \\ 7 & 4 & -8 \\ 5 & -3 & -4 \end{vmatrix}$$

$$\Delta = \begin{vmatrix} 3 & -2 & 5 \\ 7 & 4 & -8 \\ 5 & -3 & -4 \end{vmatrix} = -301$$

$$\begin{vmatrix} 3 & -2 & 5 \\ 7 & 4 & -8 \\ 5 & -3 & -4 \end{vmatrix}$$

$$\Delta = (3 \cdot 4 \cdot (-4)) + ((-2) \cdot (-8) \cdot 5) + ((-3) \cdot 7 \cdot 5) - (5 \cdot 4 \cdot 5) - ((-2) \cdot 7 \cdot (-4)) - ((-3) \cdot (-8) \cdot 3) = (-48) + 80 + (-105) - 100 - 56 - 72 = -301$$

$$\begin{vmatrix} 3 & -2 & 5 \\ 7 & 4 & -8 \\ 5 & -3 & -4 \end{vmatrix}$$

$$\Delta x = \begin{vmatrix} 3 & -2 & 5 \\ 7 & 4 & -8 \\ 5 & -3 & -4 \end{vmatrix} = -301$$

$$\begin{vmatrix} 3 & -2 & 5 \\ 7 & 4 & -8 \\ 5 & -3 & -4 \end{vmatrix}$$

$$\Delta x = (7 \cdot 4 \cdot (-4)) + (3 \cdot (-3) \cdot 5) + ((-2) \cdot (-8) \cdot (-12)) - (5 \cdot 4 \cdot (-12)) - ((-2) \cdot 3 \cdot (-4)) - ((-8) \cdot (-3) \cdot 7) = (-349) - (-240) - 24 - 168 = -301$$

$$\begin{vmatrix} 3 & -2 & 5 \\ 7 & 4 & -8 \\ 5 & -3 & -4 \end{vmatrix}$$

$$\Delta y = \begin{vmatrix} 3 & -2 & 5 \\ 7 & 4 & -8 \\ 5 & -3 & -4 \end{vmatrix} = -903$$

$$\begin{vmatrix} 3 & -2 & 5 \\ 7 & 4 & -8 \\ 5 & -3 & -4 \end{vmatrix}$$

$$\Delta y = (3 \cdot 3 \cdot (-4)) + (7 \cdot (-8) \cdot 5) + (7 \cdot (-12) \cdot 5) - (5 \cdot 3 \cdot 5) - (7 \cdot 7 \cdot (-4)) - ((-12) \cdot (-8) \cdot 3) = -36 + (-280) + (-420) - 75 - (-196) - 288 = -903$$

$$\begin{vmatrix} 3 & -2 & 5 \\ 7 & 4 & -8 \\ 5 & -3 & -4 \end{vmatrix}$$

$$\Delta z = \begin{vmatrix} 3 & -2 & 5 \\ 7 & 4 & -8 \\ 5 & -3 & -4 \end{vmatrix} = -602$$

$$\begin{vmatrix} 3 & -2 & 5 \\ 7 & 4 & -8 \\ 5 & -3 & -4 \end{vmatrix}$$

$$\Delta y = (3 \cdot 4 \cdot (-12)) + ((-2) \cdot 3 \cdot 5) + (7 \cdot (-3 \cdot 7)) - (7 \cdot 4 \cdot 5) - (7 \cdot (-2) \cdot (-12)) - ((-3) \cdot 3 \cdot 3) = (-144) + (-30) + (-147) - 140 - 168 - (-27) = -602$$

$$x = \frac{\Delta x}{\Delta} = \frac{-301}{-301} = 1 \quad \text{Ответ : } x = 1, y = 3, z = 2$$

$$y = \frac{\Delta y}{\Delta} = \frac{-903}{-301} = 3$$

$$z = \frac{\Delta z}{\Delta} = \frac{-602}{-301} = 2$$

