date

Пн Вт Ср Чт Пт Сб Вс

plans for the day

08:00 (N 1)

09:00

10:00 $7 \cdot \begin{bmatrix} 5 & 10 \\ 7 & 12 \\ 11,3 & 5 \\ 25 & 30 \end{bmatrix} + 2 \cdot \begin{bmatrix} 5 & 10 \\ 7 & 12 \\ 11,3 & 5 \\ 25 & 30 \end{bmatrix} = \begin{bmatrix} 35 & 70 \\ 49 & 84 \\ 79,1 & 35 \\ 175 & 210 \end{bmatrix} +$

11:00

12:00 $+ \begin{bmatrix} 10 & 20 \\ 14 & 24 \\ 22,6 & 10 \\ 50 & 60 \end{bmatrix} = \begin{bmatrix} 45 & 90 \\ 63 & 108 \\ 101,7 & 45 \\ 225 & 270 \end{bmatrix}$

13:00

14:00

15:00

16:00

17:00

18:00

19:00

20:00

21:00

notes

дата / date :

plans for the day

08:00 **№ 2.1.**

09:00 $\begin{cases} 3x - 2y + 5z = 7 \\ 7x + 4y - 8z = 3 \\ 5x - 3y - 4z = -12 \end{cases}$

10:00

11:00 $A = \begin{bmatrix} 3 & -2 & 5 \\ 7 & 4 & -8 \\ 5 & -3 & -4 \end{bmatrix} \quad B = \begin{bmatrix} 7 \\ 3 \\ -12 \end{bmatrix}$

12:00

13:00 По методу Гаусса:

14:00 $A = \begin{bmatrix} \boxed{3} & -2 & 5 \\ 7 & 4 & -8 \\ 5 & -3 & -4 \end{bmatrix}$ $a_{21} = 7 - \frac{7}{3} \cdot 3 = 0$, $a_{22} = 4 - \frac{7}{3} \cdot (-2) = \frac{26}{3}$,

15:00 $a_{23} = -8 - \frac{7}{3} \cdot 5 = -\frac{59}{3}$

16:00 $A \begin{bmatrix} \boxed{3} & -2 & 5 \\ 0 & \frac{26}{3} & -\frac{59}{3} \\ 5 & -3 & -4 \end{bmatrix}$ $a_{31} = 5 - \frac{5}{3} \cdot 3 = 0$, $a_{32} = -3 - \frac{5}{3} \cdot (-2) = \frac{1}{3}$,

17:00 $a_{33} = -4 - \frac{5}{3} \cdot 5 = -\frac{17}{3}$

18:00 $A = \begin{bmatrix} 3 & -2 & 5 \\ 0 & \boxed{26/3} & -59/3 \\ 0 & 1/3 & -37/3 \end{bmatrix}$ $a_{31} = 0 - 1/26 \cdot 0 = 0$, $a_{32} = 1/3 - 1/26 \cdot 26/3 = 0$,

19:00 $a_{33} = -37/3 - 1/26 \cdot (-59/3) = -\frac{301}{26}$

20:00 $A = \begin{bmatrix} 3 & -2 & 5 \\ 0 & \boxed{\frac{26}{3}} & -\frac{59}{3} \\ 0 & 0 & -\frac{301}{26} \end{bmatrix} = 3 \cdot \frac{26}{3} \cdot \left(-\frac{301}{26}\right) = -301 \quad (\Delta)$

21:00

notes

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08:00 $x_\Delta = \begin{bmatrix} \boxed{7} & -2 & 5 \\ 3 & 4 & -8 \\ -12 & -3 & -4 \end{bmatrix} = \begin{bmatrix} \boxed{7} & -2 & 5 \\ 0 & \frac{34}{7} & -\frac{71}{7} \\ -12 & -3 & -4 \end{bmatrix} = \begin{bmatrix} 7 & -2 & 5 \\ 0 & \boxed{\frac{34}{7}} & -\frac{71}{7} \\ 0 & -\frac{41}{7} & \frac{72}{7} \end{bmatrix} = \begin{bmatrix} 7 & -2 & 5 \\ 0 & \frac{34}{7} & -\frac{71}{7} \\ 0 & 0 & -\frac{301}{34} \end{bmatrix} =$

09:00

10:00 $= 7 \cdot \frac{34}{7} \cdot \left(-\frac{301}{34}\right) = -301$

11:00

12:00 $y_\Delta = \begin{bmatrix} \boxed{3} & 7 & 5 \\ 7 & 3 & -8 \\ 5 & -12 & -4 \end{bmatrix} = \begin{bmatrix} \boxed{3} & 7 & 5 \\ 0 & -\frac{40}{3} & -\frac{59}{3} \\ 5 & -12 & -4 \end{bmatrix} = \begin{bmatrix} 3 & 7 & 5 \\ 0 & \boxed{-\frac{40}{3}} & -\frac{59}{3} \\ 0 & -\frac{71}{3} & -\frac{37}{3} \end{bmatrix} =$

13:00

14:00 $= \begin{bmatrix} 3 & 7 & 5 \\ 0 & \boxed{-\frac{40}{3}} & -\frac{59}{3} \\ 0 & 0 & \frac{903}{40} \end{bmatrix} = 3 \cdot \left(-\frac{40}{3}\right) \cdot \frac{903}{40} = -903$

15:00

16:00 $z_\Delta = \begin{bmatrix} \boxed{3} & -2 & 7 \\ 7 & 4 & 3 \\ 5 & -3 & -12 \end{bmatrix} = \begin{bmatrix} 3 & -2 & 7 \\ 0 & \boxed{\frac{26}{3}} & -\frac{40}{3} \\ 5 & -3 & -12 \end{bmatrix} = \begin{bmatrix} 3 & -2 & 7 \\ 0 & \boxed{\frac{26}{3}} & -\frac{40}{3} \\ 0 & \frac{1}{3} & -\frac{71}{3} \end{bmatrix} = \begin{bmatrix} 3 & -2 & 7 \\ 0 & \frac{26}{3} & -\frac{40}{3} \\ 0 & 0 & -\frac{301}{13} \end{bmatrix} =$

17:00

18:00 $= 3 \cdot \frac{26}{3} \cdot \left(-\frac{301}{13}\right) = -602$

$x = x_\Delta / \Delta = -301 / -301 = 1$

19:00

$y = y_\Delta / \Delta = -903 / -301 = 3$

20:00

$z = z_\Delta / \Delta = -602 / -301 = 2$

21:00

notes

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plans for the day

№ 2.2

I способ

$$\begin{cases} x^2 + yx - 3 = 0 \\ x - y/5 = 0 \end{cases} = \begin{cases} x^2 + 5x^2 = 3 \\ y = 5x \end{cases} = \begin{cases} 2x^2 = 3 \\ y = 5x \end{cases} =$$

$$\begin{cases} x = \sqrt{\frac{3}{2}} \\ y = 5\sqrt{\frac{3}{2}} \end{cases}$$

II способ

$x^2 + yx - 3 = 0$

$D = y^2 - 4 \cdot (-1)$

$D = y^2 + 36 = 25x^2 + 36$

$x_1 = \frac{-5x + \sqrt{25x^2+36}}{2}$

$2x_1 = -5x + \sqrt{25x^2+36}$

$7x_1 = \sqrt{25x^2+36} \quad | \cdot 2$

$49x_1^2 = 25x^2 + 36$

$49x_1^2 - 25x_1^2 + 36 = 0$

$24x_1^2 = +36$

$x_1^2 = -\frac{36}{24} = +\frac{6}{4} = +\sqrt{\frac{3}{2}}$

notes

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$x_2 = \frac{-5x - \sqrt{25x^2+36}}{2}$

$2x_2 = -5x_2 - \sqrt{25x^2+36}$

$7x_2 = -\sqrt{25x^2+36} \quad | \cdot 2$

$49x_2^2 = 25x^2 + 36$

$24x_2^2 = 36$

$x_2^2 = \frac{3}{2} = \sqrt{\frac{3}{2}}$

$\begin{cases} x = \sqrt{\frac{3}{2}} \\ y = 5\sqrt{\frac{3}{2}} \end{cases}$

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08:00 (N 3)

09:00
$$\begin{cases} xy = 48 \\ 2x + 2y = 28 \end{cases} = \begin{cases} x = \frac{48}{y} \\ 2 \cdot \frac{48}{y} + 2y = 28 \end{cases} =$$
10:00

11:00
$$= \begin{cases} x = \frac{48}{y} \\ \frac{96}{y} + 2y = 28 \end{cases} = \begin{cases} x = \frac{48}{y} \\ \frac{96 + 2y^2}{y} = 28 \end{cases} = \begin{cases} x = \frac{48}{y} \\ 2y^2 + 96 = 28y \end{cases} =$$

12:00
$$= \begin{cases} x = \frac{48}{y} \\ 2y^2 - 28y + 96 = 0 \ /2 \end{cases} = \begin{cases} x = \frac{48}{y} \\ * y^2 - 14y + 48 = 0 \end{cases}$$
13:00

14:00
$$* \ y^2 - 14y + 48 = 0$$

15:00
$$D = 196 - 192 = 4$$

16:00
$$y_1 = \frac{14 + \sqrt{4}}{2} = 8$$

17:00
$$y_2 = \frac{14 - \sqrt{4}}{2} = 6$$

18:00
$$\begin{cases} x_1 = \frac{48}{8} = 6 \ , \ x_1 = \frac{48}{6} = 8 \\ y_1 = 8 \ , \ y_2 = 6 \end{cases}$$
19:00

20:00

21:00

notes