

$$1. \begin{cases} 2x + 3y - 4z = -38 \\ 4x - 5y + 11z = 64 \\ x + y + z = 13 \end{cases}$$

ŠTA TREBA U PRVOM ZADATKU?

$$2. \lim_{x \rightarrow \infty} \left(\frac{2-x}{x} \right)^{2x} = \lim_{x \rightarrow \infty} \left(1 + \frac{2-x-1}{x} \right)^{2x} = \lim_{x \rightarrow \infty} \left(1 + \frac{2-x-x}{x} \right)^{2x} = \lim_{x \rightarrow \infty} \left(\frac{2}{x} - \frac{x}{x} \right)^{2x} = \lim_{x \rightarrow \infty} \left(\frac{2}{x} - 1 \right)^{2x} = (-1)^\infty$$

NGODREĐENI

IZPAZ

PROVJERI DALI SI DOBRO NAPISAO ZADATAK NA FORUMI!

$$3. P_\Delta = ? \quad \vec{x} = 2\vec{a} - \vec{b} \quad \vec{a} = \vec{i} + 2\vec{j} - 3\vec{k} \\ \vec{y} = \vec{b} - 3\vec{a} \quad \vec{b} = -2\vec{i} + \vec{j} + \vec{k}$$

$$\vec{a} = (1, 2, -3) \quad \vec{x} = 2\vec{a} - \vec{b} = (2, 4, -6) - (-2, 1, -1)$$

$$\vec{b} = (-2, 1, -1) \quad \vec{x} = (2 - (-2), 4 - 1, -6 - (-1))$$

$$\vec{x} = (4, 3, -5)$$

$$\vec{y} = \vec{b} - 3\vec{a} = (-2, 1, -1) - (3, 6, -9) =$$

$$= (-2 - 3, 1 - 6, -1 - (-9)) =$$

$$= (-5, -5, 8)$$

$$\vec{x} \times \vec{y} = \begin{vmatrix} \vec{i} & \vec{j} & \vec{k} & | & \vec{i} & \vec{j} \\ 4 & 3 & -5 & | & 4 & 3 \\ -5 & -5 & 8 & | & -5 & -5 \end{vmatrix} =$$

$$= 24\vec{i} + 25\vec{j} - 20\vec{k} + 15\vec{k} - 25\vec{i} - 32\vec{j} =$$

$$= -\vec{i} - 7\vec{j} - 5\vec{k} = (-1, -7, -5)$$

$$P_\Delta = \frac{1}{2} |\vec{x} \times \vec{y}| = \frac{1}{2} \cdot \sqrt{(-1)^2 + (-7)^2 + (-5)^2} =$$

$$= \frac{1}{2} \cdot \sqrt{1 + 49 + 25} = \frac{1}{2} \sqrt{75} = \frac{1}{2} \cdot \sqrt{25 \cdot 3} = \frac{5}{2} \sqrt{3} \text{ kv. jed.}$$

$$4. f(x) = \left(\frac{5}{3} \right)^x + 1 \text{ (GEOGEBRA)}$$

$$5. \vec{a} = (3, -1, 4) \quad \vec{b} = (5, 2, -6)$$

$$\vec{a} \cdot \vec{b} = 3 \cdot 5 + (-1) \cdot 2 + 4 \cdot (-6) = 15 - 2 - 24 = -11$$

$$\vec{a} \times \vec{b} = \begin{vmatrix} \vec{i} & \vec{j} & \vec{k} & | & \vec{i} & \vec{j} \\ 3 & -1 & 4 & | & 3 & -1 \\ 5 & 2 & -6 & | & 5 & 2 \end{vmatrix} =$$

$$= 6\vec{i} + 20\vec{j} + 6\vec{k} + 5\vec{k} - 8\vec{i} + 18\vec{j} =$$

$$= -2\vec{i} + 38\vec{j} + 11\vec{k} = (-2, 38, 11)$$

$$P_\Delta = |\vec{a} \times \vec{b}| = \sqrt{(-2)^2 + 38^2 + 11^2} =$$

$$= \sqrt{1569} \approx 39,61 \text{ kv. jed.}$$

$$\textcircled{6.} \begin{cases} 2x_1 - 4x_2 + 3x_3 = 1 \\ x_1 - 2x_2 + 4x_3 = 3 \\ 3x_1 - x_2 + 5x_3 = 2 \end{cases}$$

$$\Delta = \begin{vmatrix} 2 & -4 & 3 \\ 1 & -2 & 4 \\ 3 & -1 & 5 \end{vmatrix} \begin{vmatrix} 2 & -4 \\ 1 & -2 \\ 3 & -1 \end{vmatrix} = -20 - 48 - 3 + 18 + 8 + 20 = -25$$

$$\Delta x_1 = \begin{vmatrix} 1 & -4 & 3 \\ 3 & -2 & 4 \\ 2 & -1 & 5 \end{vmatrix} \begin{vmatrix} 1 & -4 \\ 3 & -2 \\ 2 & -1 \end{vmatrix} = -10 - 32 - 9 + 12 + 4 + 60 = 25$$

$$\Delta x_2 = \begin{vmatrix} 2 & 1 & 3 \\ 1 & 3 & 4 \\ 3 & 2 & 5 \end{vmatrix} \begin{vmatrix} 2 & 1 \\ 1 & 3 \\ 3 & 2 \end{vmatrix} = 30 + 12 + 6 - 27 - 16 - 5 = 0$$

$$\Delta x_3 = \begin{vmatrix} 2 & -4 & 1 \\ 1 & -2 & 3 \\ 3 & -1 & 2 \end{vmatrix} \begin{vmatrix} 2 & -4 \\ 1 & -2 \\ 3 & -1 \end{vmatrix} = -8 - 36 - 1 + 6 + 6 + 8 = -25$$

$$x_1 = \frac{\Delta x_1}{\Delta}$$

$$x_2 = \frac{\Delta x_2}{\Delta}$$

$$x_3 = \frac{\Delta x_3}{\Delta}$$

$$x_1 = \frac{25}{-25}$$

$$x_2 = \frac{0}{-25}$$

$$x_3 = \frac{-25}{-25}$$

$$x_1 = -1$$

$$x_2 = 0$$

$$x_3 = 1$$

$$\boxed{(-1, 0, 1)}$$