

RECAPITULARE FINALĂ (ECUAȚII ȘI SIST. DE EC.)

14/127. $x \in \mathbb{R} = ?$

b) $5x - 7(x+1) = 3(3-2x) + 8$

$5x - 7x - 7 = 9 - 6x + 8$

$-2x - 7 = -6x + 17$

$-2x + 6x = 17 + 7$

$4x = 24 \quad /:4$

$x = 6 \Rightarrow S = \{6\}$

15/127 $x \in \mathbb{R} = ?$

b) $2(2x+1) - 4(x+3) = 5 - 3(2x+3)$

$4x + 2 - 4x - 12 = 5 - 6x - 9$

$-10 = -6x - 4$

$6x = 10 - 4$

$6x = 6 \quad /:6$

$x = 1 \Rightarrow S = \{1\}$

16/128 $x \in \mathbb{R} = ?$

a) $2 \cdot \{3(2x-1) - 2[3(x+4) - 2(x+6)]\} = 3 \cdot [8 - 5(3x-2)] - 7$

$2 \cdot \{6x - 3 - 2 \cdot (3x + 12 - 2x - 12)\} = 3 \cdot (8 - 15x + 10) - 7$

$2 \cdot \{6x - 3 - 2 \cdot (x)\} = 3 \cdot (-15x + 18) - 7$

$2 \cdot (6x - 3 - 2x) = 3(-15x + 18) - 7$

$12x - 6 - 4x = -45x + 54 - 7$

$8x - 6 = -45x + 47$

$53x = 53$

$x = 1$

$S = \{1\}$

18/128. $x \in \mathbb{R} = ?$

$$a) \frac{2}{5x+3} - \frac{3}{3x+1} + \frac{6}{7-x} = \frac{4}{3-4x} \quad | \cdot 12$$

$$2(5x+3) - 3(3x+1) + 6(7-x) = 4 \cdot (3-4x)$$

$$10x + 6 - 9x - 3 + 42 - 6x = 12 - 16x$$

$$-5x + 45 = 12 - 16x$$

$$-5x + 16x = 12 - 45$$

$$x = -33 \Rightarrow S = \{-33\}$$

19/128. $x \in \mathbb{R} = ?$

$$b) \frac{2x-3}{12} - \frac{2(3x+7)}{15} + 1 \frac{1}{15} = \frac{6-5x}{20} - \frac{1}{5}$$

$$5 \frac{2x-3}{12} - \frac{4(6x+14)}{15} + \frac{4}{15} = \frac{3(6-5x)}{20} - \frac{12}{5} \quad | \cdot 60$$

$$5(2x-3) - 4(6x+14) + 64 = 3 \cdot (6-5x) - 12$$

$$10x - 15 - 24x - 56 + 64 = 18 - 15x - 12$$

$$-14x - 7 = -15x + 6$$

$$-14x + 15x = 6 + 7$$

$$x = 13 \Rightarrow S = \{13\}$$

22/24 Regel vati' sistemul:

$$b) \begin{cases} \frac{5}{x+2y-1} = \frac{3}{2x-4y+5} \quad | \cdot 15 \\ \frac{2}{2x+3y-1} = \frac{3}{2x+y-1} \quad | \cdot 6 \end{cases} \Leftrightarrow \begin{cases} 5(x+2y-1) = 3(2x-4y+5) \\ 2(2x+3y-1) = 3(2x+y-1) \end{cases}$$

$$\begin{cases} 5x + 10y - 5 = 6x - 12y + 15 \\ 4x + 6y - 2 = 6x + 3y - 3 \end{cases}$$

$$\begin{cases} \underline{5x} + 10y - \underline{6x} + 12y = 15 + 5 \\ 4x + 6y - \underline{6x} - 3y = -3 + 2 \end{cases}$$

$$\begin{cases} -x + 22y = 20 \quad | \cdot (-2) \\ -2x + 3y = -1 \end{cases}$$

$$\begin{cases} 2x - 44y = -40 \\ -2x + 3y = -1 \end{cases}$$

$$\hline -41y = -41 \Rightarrow \boxed{y=1} \Rightarrow -x + 22 = 20$$

$$-x = 20 - 22$$

$$-x = -2 \quad | \cdot (-1)$$

$$\boxed{x=2}$$

$$S = \{(2, 1)\}$$

TEMA TEZA 1/11