

Lösungen zu LGS 1

a) $\begin{aligned} 3x + 5y &= 41 \\ 2x + y &= 18 \end{aligned} \quad | \cdot (-5)$ AV $\Rightarrow L = \{(7;4)\}$

b) $\begin{aligned} 6x - 5y &= -4 \\ 2x + y &= 4 \end{aligned} \quad | \cdot 5$ AV $\Rightarrow L = \{(1;2)\}$

c) $\begin{aligned} x + \frac{1}{3}y &= 4 \cdot 3 \\ \frac{3}{5}x - \frac{2}{3}y &= 5 \cdot 15 \end{aligned}$ AV $\Rightarrow L = \{(5;-3)\}$

d) $\begin{aligned} 0,3x + 0,9y &= 1,2 \cdot 10 \\ 4x + 4y &= 8 \end{aligned} \quad | \cdot 4$ AV $\Rightarrow L = \{(1;1)\}$

e) $\begin{aligned} 5x + 7y &= -1 \cdot 3 \\ 3x + 2y &= -5 \cdot (-5) \end{aligned}$ AV $\Rightarrow L = \{(-3;2)\}$

f) $\begin{aligned} 2x - 6y &= -4 \\ 2x - 4y &= 2 \cdot (-1) \end{aligned}$ AV $\Rightarrow L = \{(7;3)\}$

g) $\begin{aligned} 8x - y &= 15 \cdot (-9) \\ 12x - 9y &= 15 \end{aligned}$ AV $\Rightarrow L = \{(2;1)\}$

h) $\begin{aligned} 3x + 5y - z &= 7 \\ 2x - 3y + 2z &= -6 \\ 7x + 8y + z &= 3 \end{aligned}$ I + III \Rightarrow IV $10x + 13y = 10$ und I $\cdot 2 +$ II \Rightarrow V $8x + 7y = 8$
 $|IV \cdot 4 + V \cdot (-5)| \Rightarrow L = \{(1;0;-4)\}$

i) $\begin{aligned} 4x - 2y + 3z &= 8 \\ x - 5y - z &= 12 \\ x + 2z &= 3 \end{aligned}$ I $\cdot 5 +$ II $\cdot (-2) \Rightarrow$ IV $18x + 17z = 16$
 $|III \cdot (-18) + IV| \Rightarrow L = \{(-1; -3; 2)\}$

j) $\begin{aligned} x - 2y &= -2 \\ 3x - 2z &= 4 \\ 2y + z &= -4 \end{aligned}$ I + III \Rightarrow IV $x + z = -6$
 $|II + IV \cdot 2| \Rightarrow L = \{(-1,6;0,2;-4,4)\}$