

Bestimme die Lösungsmenge der Gleichungen durch Äquivalenzumformungen. $G = \mathbb{N}_0$.

$$\begin{aligned} 1. \quad 9z + 25 &= 4z + 155 & || - 4z \\ 5z + 25 &= 155 & || - 25 \\ 5z &= 130 & || : 5 \\ z &= 26 \\ L &= \{26\} \end{aligned}$$

$$\begin{aligned} 2. \quad 2y + 116 &= 6y + 28 & || - 2y \\ 116 &= 4y + 28 & || - 28 \\ 88 &= 4y & || : 4 \\ 22 &= y \\ L &= \{22\} \end{aligned}$$

$$\begin{aligned} 3. \quad 4x + 9 &= 7x & || - 4x \\ 9 &= 3x & || : 3 \\ 3 &= x \\ L &= \{3\} \end{aligned}$$

$$\begin{aligned} 4. \quad 5t &= 3t + 6 & || - 3t \\ 2t &= 6 & || : 2 \\ t &= 3 \\ L &= \{3\} \end{aligned}$$

$$\begin{aligned} 5. \quad 21 + 5x &= 196 - 2x & || + 2x \\ 21 + 7x &= 196 & || - 21 \\ 7x &= 175 & || : 7 \\ x &= 25 \\ L &= \{25\} \end{aligned}$$

$$\begin{aligned} 6. \quad 312 - 5x &= 32 + 3x & || + 5x \\ 312 &= 32 + 8x & || - 32 \\ 280 &= 8x & || : 8 \\ 35 &= x \\ L &= \{35\} \end{aligned}$$

$$\begin{aligned} 7. \quad 12 + 8z &= 21 + 5z & || - 5z \\ 12 + 3z &= 21 & || - 12 \\ 3z &= 9 & || : 3 \\ z &= 3 \\ L &= \{3\} \end{aligned}$$

$$\begin{aligned} 8. \quad 10a - 240 &= 5a - 45 && || + 240 \\ 10a &= 5a + 195 && || - 5a \\ 5a &= 195 && || : 5 \\ a &= 39 \\ L &= \{39\} \end{aligned}$$

$$\begin{aligned} 9. \quad 7y - 6 &= 4y + 21 && || - 4y \\ 3y - 6 &= 21 && || + 6 \\ 3y &= 27 && || : 3 \\ y &= 9 \\ L &= \{9\} \end{aligned}$$

$$\begin{aligned} 10. \quad 12 - 4a &= 42 - 7a && || + 7a \\ 12 + 3a &= 42 && || - 12 \\ 3a &= 30 && || : 3 \\ a &= 10 \\ L &= \{10\} \end{aligned}$$