

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

$$\begin{aligned} 1. \quad 9y &= 7y + 18 & \parallel - 7y \\ 2y &= 18 & \parallel : 2 \\ y &= 9 \\ L &= \{9\} \end{aligned}$$

$$\begin{aligned} 2. \quad 5a + 14 &= 7a & \parallel - 5a \\ 14 &= 2a & \parallel : 2 \\ 7 &= a \\ L &= \{7\} \end{aligned}$$

$$\begin{aligned} 3. \quad 6y + 21 &= 3y + 87 & \parallel - 3y \\ 3y + 21 &= 87 & \parallel - 21 \\ 3y &= 66 & \parallel : 3 \\ y &= 22 \\ L &= \{22\} \end{aligned}$$

$$\begin{aligned} 4. \quad 3y + 22 &= 5y + 2 & \parallel - 3y \\ 22 &= 2y + 2 & \parallel - 2 \\ 20 &= 2y & \parallel : 2 \\ 10 &= y \\ L &= \{10\} \end{aligned}$$

$$\begin{aligned} 5. \quad 9x - 6 &= 6x + 21 & \parallel - 6x \\ 3x - 6 &= 21 & \parallel + 6 \\ 3x &= 27 & \parallel : 3 \\ x &= 9 \\ L &= \{9\} \end{aligned}$$

$$\begin{aligned} 6. \quad 8a - 185 &= 3a - 30 & \parallel + 185 \\ 8a &= 3a + 155 & \parallel - 3a \\ 5a &= 155 & \parallel : 5 \\ a &= 31 \\ L &= \{31\} \end{aligned}$$

$$\begin{aligned} 7. \quad 21 + 6t &= 36 + 3t & \parallel - 3t \\ 21 + 3t &= 36 & \parallel - 21 \\ 3t &= 15 & \parallel : 3 \\ t &= 5 \\ L &= \{5\} \end{aligned}$$

$$\begin{aligned}
8. \quad 84 - 2z &= 12 + 4z & || + 2z \\
84 &= 12 + 6z & || - 12 \\
72 &= 6z & || : 6 \\
12 &= z \\
L &= \{12\}
\end{aligned}$$

$$\begin{aligned}
9. \quad 49 + 5y &= 385 - 2y & || + 2y \\
49 + 7y &= 385 & || - 49 \\
7y &= 336 & || : 7 \\
y &= 48 \\
L &= \{48\}
\end{aligned}$$

$$\begin{aligned}
10. \quad 9 - 5t &= 42 - 8t & || + 8t \\
9 + 3t &= 42 & || - 9 \\
3t &= 33 & || : 3 \\
t &= 11 \\
L &= \{11\}
\end{aligned}$$