

Lösungen zu einfache lineare Gleichungen:

- Übungen: a) $13x - 41 = 232$
b) $2,75 = 4,15 - 0,8\beta$
c) $5 + \frac{a}{4} = -\frac{5}{8}$
d) $24 - \Psi \div 3 = 5$

zu a)

$$\begin{aligned} & 13x - 41 = 232 && | + 41 \\ \Leftrightarrow & 13x - 41 + 41 = 232 + 41 \\ \Leftrightarrow & 13x = 273 && | \div 13 \\ \Leftrightarrow & 13x \div 13 = 273 \div 13 \\ \Leftrightarrow & x = 21 \\ \Rightarrow & L = \{21\} \end{aligned}$$

zu b)

$$\begin{aligned} & 2,75 = 4,15 - 0,8\beta && | - 4,15 \\ \Leftrightarrow & 2,75 - 4,15 = 4,15 - 0,8\beta - 4,15 \\ \Leftrightarrow & -1,4 = -0,8\beta && | \div (-0,8) \\ \Leftrightarrow & -1,4 \div (-0,8) = -0,8\beta \div (-0,8) \\ \Leftrightarrow & 1,75 = \beta \\ \Rightarrow & L = \{1,75\} \end{aligned}$$

zu c)

$$\begin{aligned} & 5 + \frac{a}{4} = -\frac{5}{8} && | - 5 \\ \Leftrightarrow & 5 + \frac{a}{4} - 5 = -\frac{5}{8} - 5 \\ \Leftrightarrow & \frac{a}{4} = -\frac{45}{8} && | \cdot 4 \\ \Leftrightarrow & \frac{a}{4} \cdot 4 = -\frac{45}{8} \cdot 4 \\ \Leftrightarrow & a = -\frac{45}{2} \\ \text{oder} & a = -22,5 \\ \Rightarrow & L = \{-22,5\} \end{aligned}$$

zu d)

$$\begin{aligned} 24 - \Psi \div 3 &= 5 && | - 24 \\ 24 - \Psi \div 3 - 24 &= 5 - 24 && \\ - \Psi \div 3 &= -19 && | \cdot (-3) \\ - \Psi \div 3 \cdot (-3) &= -19 \cdot (-3) && \\ \Psi &= 57 && \\ L &= \{57\} && \end{aligned}$$