

Rovnice (2021 – 2023)

1. Řešte rovnici:

(a) $0,5x + 2 \cdot (x + 2,5) = 2,5 \cdot (x + 3)$

$$0,5x + 2x + 5 = 2,5x + 7,5$$

$$2,5x + 5 = 2,5x + 7,5$$

$$0 \neq 2,5 \quad \underline{\underline{\text{ROVNICE NEMÁ ŘEŠENÍ}}}$$

(b) $\frac{y+10}{15} + \frac{2y}{5} = 1 - \frac{5-y}{3} \quad / \cdot 15$

$$y+10+6y=15-25+5y$$

$$7y+10=-10+5y$$

$$2y=-20$$

$$\underline{\underline{y=-10}}$$

2. Řešte rovnici:

(a) $2 + 0,5 \cdot (x - 3) = 0,4 \cdot (1,5x + 2)$

$$2 + 0,5x - 1,5 = 0,6x + 0,8$$

$$0,5x + 0,5 = 0,6x + 0,8$$

$$-0,1x = 0,3 \quad \longrightarrow \quad \underline{\underline{x = -3}}$$

(b) $\frac{2y-1}{8} = \frac{3y+2}{8} + \frac{y-1}{4} \quad / \cdot 8$

$$8y-4=3y+2+y-1$$

$$8y-4=4y+1$$

$$4y=5$$

$$\underline{\underline{y = \frac{5}{4} \quad (1,25)}}$$

3. Řešte rovnici:

(a) $5 \cdot 0,4 - 3x : 2 = 0,5x + 7$

$$2 - 1,5x = 0,5x + 7$$

$$-2x = 5$$

$$\underline{\underline{x = -\frac{5}{2} \quad (-2,5)}}$$

$$(b) \frac{3-y}{3} + \frac{3}{5} \cdot (y+1) + \frac{y}{3} = y \quad / \cdot 15$$

$$\begin{aligned} 15 - 5y + 9y + 9 + 5y &= 15y \\ 9y + 24 &= 15y \\ -6y &= -24 \\ \underline{\underline{y}} &= \underline{\underline{4}} \end{aligned}$$

4. Řešte rovnici:

$$(a) 5 \cdot (0,2x + 1) = (8 - 6x) : 2$$

$$x + 5 = 4 - 3x$$

$$4x = -1$$

$$\underline{\underline{x = -\frac{1}{4} \quad (-0,25)}}$$

$$(b) \frac{y-5}{2} + \frac{3-y}{6} = 1 - \frac{2y}{3} \quad / \cdot 6$$

$$3y - 15 + 3 - y = 6 - 4y$$

$$2y - 12 = 6 - 4y$$

$$6y = 18$$

$$\underline{\underline{y = 3}}$$

5. Řešte rovnici:

$$(a) 0,3 \cdot 2 - 0,5x \cdot 2 + 0,4x = x + 3,8$$

$$0,6 - x + 0,4x = x + 3,8$$

$$0,6 - 0,6x = x + 3,8$$

$$-1,6x = 3,2 \longrightarrow \underline{\underline{x = -2}}$$

$$(b) \frac{3}{4} \cdot (4-y) + \frac{3}{2} \cdot (y+2) = 6 + \frac{3y}{2} \quad / \cdot 4$$

$$12 - 3y + 6y + 12 = 24 + 6y$$

$$3y + 24 = 24 + 6y$$

$$-3y = 0$$

$$\underline{\underline{y = 0}}$$