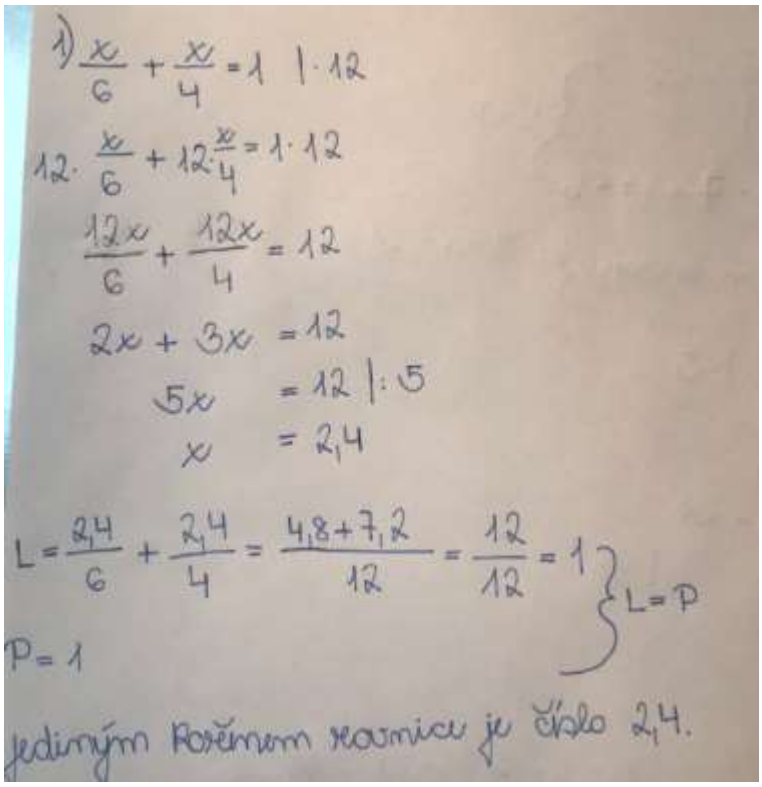
Test 21.5. - výsledky



1) $\frac{x}{6} + \frac{x}{4} = 1 \quad | \cdot 12$

$12 \cdot \frac{x}{6} + 12 \cdot \frac{x}{4} = 1 \cdot 12$

$\frac{12x}{6} + \frac{12x}{4} = 12$

$2x + 3x = 12$

$5x = 12 \quad | : 5$

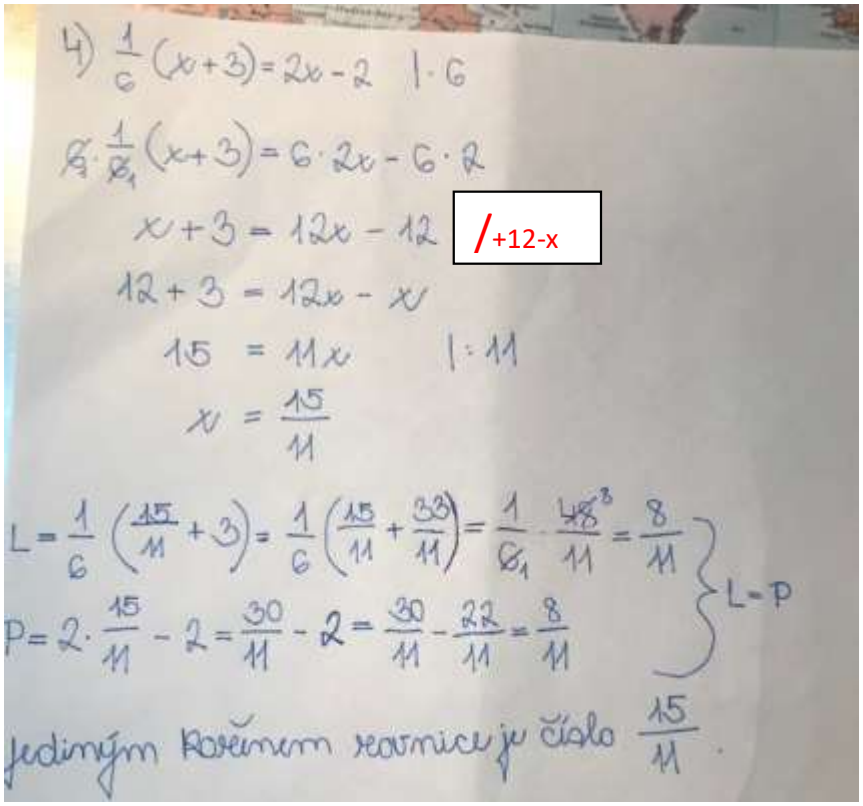
$x = 2{,}4$

$L = \frac{2{,}4}{6} + \frac{2{,}4}{4} = \frac{4{,}8 + 7{,}2}{12} = \frac{12}{12} = 1$

$P = 1$

$L = P$

Jediným řešením rovnice je číslo 2,4.



4) $\frac{1}{6}(x+3) = 2x - 2 \quad | \cdot 6$

$6 \cdot \frac{1}{6}(x+3) = 6 \cdot 2x - 6 \cdot 2$

$x + 3 = 12x - 12 \quad / +12-x$

$12 + 3 = 12x - x$

$15 = 11x \quad | : 11$

$x = \frac{15}{11}$

$L = \frac{1}{6}\left(\frac{15}{11} + 3\right) = \frac{1}{6}\left(\frac{15}{11} + \frac{33}{11}\right) = \frac{1}{6} \cdot \frac{48^{8}}{11} = \frac{8}{11}$

$P = 2 \cdot \frac{15}{11} - 2 = \frac{30}{11} - 2 = \frac{30}{11} - \frac{22}{11} = \frac{8}{11}$

$L = P$

Jediným řešením rovnice je číslo $\frac{15}{11}$.

2) $\frac{2}{7}x = \frac{1}{3}x + 1 \quad | \cdot 21$

$\frac{42}{7}x = \frac{21}{3}x + 21$

$6x = 7x + 21 \quad / -7x$

$6x - 7x = 21$

$-x = 21 \quad | \cdot (-1)$

$x = -21$

$L = \frac{2}{7_1} \cdot \left(-\frac{21}{3}\right) = -\frac{6}{1} = -6$

$P = \frac{1}{3_1} \cdot \left(-\frac{21}{7}\right) + 1 = -7 + 1 = -6$

$L = P$

Jediným kořenem rovnice je číslo -21.

3) $\frac{2x+1}{5} = 4x \quad | \cdot 5$

$2x + 1 = 20x \quad / -2x$

$1 = 20x - 2x$

$1 = 18x \quad | : 18$

$\frac{1}{18} = x$

$x = \frac{1}{18}$

$L = \frac{2 \cdot \frac{1}{18_9} + 1}{5} = \frac{\frac{1}{9} + 1}{5} = \frac{\frac{10}{9}}{\frac{5}{1}} = \frac{10}{9} : \frac{5}{1} = \frac{10}{9} \cdot \frac{1}{5} = \frac{10}{45} = \frac{2}{9}$

$P = 4 \cdot \frac{1}{18} = \frac{4^2}{18_9} = \frac{2}{9}$

$L = P$

Jediným kořenem rovnice je číslo $\frac{1}{18}$.