PL 7 – lineární rovnice III. – řešení

Řešte rovnice, nezapomeňte na zkoušky:

1) $5x = 5.(x+1) - 5$

$5x = 5x + 5 - 5 \quad |-5x$

$0 = 0$

rovnice má nekonečně mnoho řešení, např. $x = 1$

$L(1) = 5 \cdot 1 = 5$

$P(1) = 5(1+1) - 5 = 5 \cdot 2 - 5 =$

$= 10 - 5 = 5 \quad L(1) = P(1)$

2) $\frac{2}{3}.(1+z) - z = 1 \quad |\cdot 3$

$2(1+z) - 3z = 3$

$2 + 2z - 3z = 3 \quad |-2$

$-z = 1 \quad |\cdot(-1)$

$z = -1$

$L(-1) = \frac{2}{3}[1+(-1)] - (-1) =$

$= \frac{2}{3}(1-1) + 1 = \frac{2}{3} \cdot 0 + 1 = 1$

$P(-1) = 1 \quad L(1) = P(1)$

3) $(y+7).(y-5) = 0$

$y + 7 = 0$ nebo $y - 5 = 0$

$y = -7$ $\quad y = 5$

$L(-7) = (-7+7)(-7-5) =$

$= 0 \cdot (-12) = 0$

$P(-7) = 0$

$L(-7) = P(-7)$

$L(5) = (5+7)(5-5) =$

$= 12 \cdot 0 = 0$

$P(5) = 0$

$L(5) = P(5)$

4) $7x - (6 + 2x) = 5x + 3$

$7x - 6 - 2x = 5x + 3$

$5x - 6 = 5x + 3 \quad |-5x+6$

$0 \neq 9$

rovnice nemá řešení

5) $1 - \frac{1}{6}.(2z - 5) = \frac{1}{4}.(3 - z) \quad |\cdot 12$

$12 - 2(2z - 5) = 3(3 - z)$

$12 - 4z + 10 = 9 - 3z$

$22 - 4z = 9 - 3z \quad |+4z-9$

$13 = z$

$L(13) = 1 - \frac{1}{6}(2 \cdot 13 - 5) = 1 - \frac{1}{6}(26 - 5) =$

$= 1 - \frac{1}{6} \cdot 21^{7} = \frac{2}{2} - \frac{7}{5} = -\frac{5}{2} = -2{,}5$

$P(13) = \frac{1}{4}(3 - 13) = \frac{1}{4} \cdot (-10) = -\frac{10}{4} = -\frac{5}{2} = -2{,}5$

$L(13) = P(13)$

6) $(6 - 3t).(12 - 2t) = 0$

$6 - 3t = 0$ nebo $12 - 2t = 0$

$6 = 3t$ $\quad 12 = 2t$

$2 = t$ $\quad 6 = t$

$L(2) = (6 - 3 \cdot 2)(12 - 2 \cdot 2) = (6-6)(12-4) =$

$= 0 \cdot 8 = 0$

$P(2) = 0 \quad L(2) = P(2)$

$L(6) = (6 - 3 \cdot 6)(12 - 2 \cdot 6) = (6-18) \cdot (12-12) =$

$= -12 \cdot 0 = 0$

$P(6) = 0 \quad L(6) = P(6)$