RIEŠENIE - MINITEST 4 - LS 2023/24 - JAROŠ - MATEMATIKA

SK (1) 9:00:

$$\sqrt[2x+4]{4^{x+8}} = \sqrt[4]{64}$$

$$4^{\frac{x+8}{2x+4}} = 64^{\frac{1}{4}} = 4^{\frac{3}{4}}$$ (keď sa rovnajú základy, musia sa rovnať aj exponenty)

$$\frac{x+8}{2x+4} = \frac{3}{4} \Rightarrow 4x+32 = 6x+12$$

D_f: $2x+4 \neq 0$, $2x \neq -4$, $x \neq -2$ $\wedge$ D_f: $4^{x+8} \geq 0$ ale $2x+4 \neq 0$

$$2x = 20$$
$$x = 10$$

$P = \{10\}$

(SK: $2 \cdot 10 + 4 \sqrt[4^{10+8}]{} = \sqrt[4]{64}$

$4^{\frac{18}{24}} = 4^{\frac{3}{4}} = \sqrt[4]{64}$

$L = P$)

SK (2) 11:00:

$$3 \cdot \log_6(2) + \log_6(x+1) = 1 + \log_6(x+2)$$

$$\log_6 2^3 + \log_6(x+1) = \log_6 6 + \log_6(x+2)$$

$$\rightarrow \log_6(2^3 \cdot (x+1)) = \log_6(6 \cdot (x+2))$$ ("odlogaritmujeme")

rovnaký log s rovnakým základom

$$8x+8 = 6x+12$$
$$2x = 4$$
$$x = 2$$

SK: $\log_6 2^3 + \log_6 \underbrace{(2+1)}_{3} = 1 + \log_6 \underbrace{(2+2)}_{4}$

$\log_6 \underbrace{(8 \cdot 3)}_{24} = \log_6 \underbrace{(6 \cdot 4)}_{24} \Rightarrow L = P$ ✓

$P = \{2\}$