

Softverski alati 1 - I kolokvijum

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1. Dokazati tautologiju

$$(1) \quad (A \Rightarrow (B \Rightarrow C)) \Rightarrow ((A \Rightarrow B) \Rightarrow (A \Rightarrow C))$$

2. Rešiti jednačinu

$$(2) \quad |x+1| - |x| + 3|x-1| - 2|x-2| = x+2$$

3. Izračunati vrednost

$$(3) \quad \frac{2 \log_{\sqrt{5}} 5 + 3 \log_2 8}{2 \log_3 \sqrt{3} - 3 \log_{\frac{1}{2}} \sqrt[3]{2}}$$

Rešenje.

$$\begin{aligned} \frac{2 \log_{\sqrt{5}} 5 + 3 \log_2 8}{2 \log_3 \sqrt{3} - 3 \log_{\frac{1}{2}} \sqrt[3]{2}} &= \frac{2 \log_{\frac{1}{5} \frac{1}{2}} 5 + 3 \log_2 2^3}{2 \log_3 3^{\frac{1}{2}} - 3 \log_{2^{-1}} 2^{\frac{1}{3}}} \\ &= \frac{2 \cdot 2 + 3 \cdot 3}{2 \cdot \frac{1}{2} - 3 \cdot (-1) \cdot \frac{1}{3}} \\ &= \frac{13}{2} \end{aligned}$$