

17. Korenovanje – vežbe (rad u grupama)

Zadaci za ocene 3-4

ZADATAK 1. Izračunaj:

$$a) \sqrt{75} - (6\sqrt{12} - 7\sqrt{3}) - (\sqrt{28} + \sqrt{343}),$$

$$b) 9\sqrt{a} - 3 \cdot \sqrt[3]{3} - \sqrt[6]{a^2} - 7\sqrt{a} + 4\sqrt[3]{a} + \sqrt[6]{a^3},$$

$$c) 3 \cdot \sqrt[3]{\frac{125a^2b^5}{c^2}} + \sqrt[3]{\frac{a^2b^2(8a-5b)^3}{c^2}} + 2 \cdot \sqrt[3]{\frac{a^2b^2(a-5b)^3}{c^2}}.$$

ZADATAK 2. Uprosti izraze:

$$a) (\sqrt{3} + 2)(\sqrt{3} - 2) - 2\sqrt{3}(\sqrt{5} - \sqrt{3}) + 2(\sqrt{15} + 2),$$

$$b) \sqrt[3]{1 - \frac{5}{9}} \cdot \sqrt[3]{2 \cdot \left(1 + \frac{2}{9}\right)} \cdot \sqrt[3]{2 \cdot \left(\frac{1}{5} - \frac{1}{11}\right)},$$

$$c) \sqrt{x + 2y + \frac{y^2}{x}} \cdot \sqrt{\frac{y}{x^3 - xy^2}} \cdot \sqrt{\frac{x^2}{y} - 2x + y}.$$

ZADATAK 3. Ako je $A = \sqrt[6]{a^2} \cdot \sqrt[5]{a^2}$, $B = \sqrt[6]{a^3} \cdot \sqrt[5]{\frac{1}{a^2}}$ i $C = \sqrt[3]{a^2} \cdot \sqrt[5]{\frac{1}{a^4}}$, tada je $A = B = C$.

Dokaži.

ZADATAK 4. Izračunaj $\left(2^0 \cdot (\sqrt{3})^{\frac{2}{3}} - 3 \cdot \left(\frac{1}{2}\right)^{-0.75}\right) \cdot 3^{-\frac{1}{4}} + \sqrt[4]{216}$.

ZADATAK 5. Racionališi imenioc:

$$a) \frac{\sqrt{3} + \sqrt{5}}{\sqrt{3} - \sqrt{5}},$$

$$b) \frac{ab}{\sqrt[7]{b^3}},$$

$$c) \frac{4}{\sqrt[3]{2} - \sqrt[3]{3}}.$$

ZADATAK 6. Koristeći Lagranžov identitet izračunaj:

a) $\sqrt{3-\sqrt{8}}$,

b) $\sqrt{7+4\sqrt{3}}$.