Obavezan domaći zadatak – korenovanje

Zadaci za ocene 3 i 4

ZADATAK 1. Izračunaj:

a) $\sqrt{45}+\sqrt{12}-(\sqrt{48}+\sqrt{125})+\sqrt{20}$,

b) $3\sqrt{4a}-5\sqrt{12a}+5\sqrt{9a}+2\sqrt{75a}-2\sqrt{81a}$,

c) $\sqrt[3]{\dfrac{64a^2b^2(a+b)^3}{c^2}}+2\cdot\sqrt[3]{\dfrac{27a^5b^2}{c^2}}-2\cdot\sqrt[3]{\dfrac{8a^2b^5}{c^2}}$.

ZADATAK 2. Uprosti izraze:

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

b) $\sqrt[3]{\dfrac{1}{2}+\dfrac{2}{5}}\cdot\sqrt[3]{3\cdot\left(\dfrac{1}{4}+\dfrac{2}{7}\right)}\cdot\sqrt[3]{5\cdot\left(\dfrac{1}{4}+\dfrac{1}{3}\right)}$,

c) $\sqrt{\dfrac{1}{x+y}+\dfrac{2y}{x^2-y^2}}\cdot\sqrt{\dfrac{1}{x+y}}\cdot\sqrt{\dfrac{x^2}{y^2}-1}$.

ZADATAK 3. Ako su $A=\sqrt[3]{xy\sqrt{xy}}\cdot\sqrt{xy\cdot\sqrt[3]{\dfrac{1}{xy}}}$ i $B=\sqrt{xy}\cdot\sqrt{x\cdot\sqrt[3]{\dfrac{1}{y}}}\cdot\sqrt{y\cdot\sqrt[3]{\dfrac{1}{x}}}$ tada je $A = B$. Dokaži.

ZADATAK 4. Izračunaj $\left(5^{\frac{1}{3}}+3^{\frac{1}{3}}\right)\cdot\left(5^{\frac{2}{3}}-15^{\frac{1}{3}}+3^{\frac{2}{3}}\right)$.

ZADATAK 5. Racionališi:

a) $\dfrac{10}{\sqrt{7}-\sqrt{2}}$

b) $\dfrac{xy}{\sqrt[9]{x^5}}$

c) $\dfrac{5}{\sqrt[3]{2}+\sqrt[3]{3}}$

ZADATAK 6. Koristeći Lagranžov identitet izračunaj:

a) $\sqrt{6+\sqrt{20}}$

b) $\sqrt{6-4\sqrt{2}}$