

PONAVLJANJE - ZADACI

1.

IZRAČUNAJ :

$$1.) 7\sqrt{2} - 3\sqrt{5} + 5\sqrt{2} =$$

$$2.) 11 \cdot \sqrt[3]{x^2} + 9 \cdot \sqrt[3]{x} - 5 \cdot \sqrt[3]{x^2} =$$

$$3.) (9\sqrt{2} - 5)^2 =$$

$$4.) (7\sqrt{2} - 3) \cdot (4 - \sqrt{2}) =$$

$$5.) (5\sqrt{3} + 2\sqrt{5}) \cdot (5\sqrt{3} - 2\sqrt{5}) =$$

$$6.) \sqrt[8]{5\sqrt{a^6}} =$$

$$7.) \sqrt[8]{a^3} : \sqrt[4]{a} =$$

$$8.) \sqrt[10]{x^7} \cdot \sqrt[15]{x^2} =$$

$$9.) \sqrt[3]{x \cdot \sqrt{x}} \cdot \sqrt[4]{\sqrt[3]{x^2}} =$$

$$10.) 32^{-\frac{2}{5}} =$$

$$11.) 16^{-\frac{3}{4}} + \left(\frac{1}{25}\right)^{-\frac{1}{2}} =$$

$$12.) 3\sqrt{200} - 5\sqrt{12} + 7\sqrt{18} - 2\sqrt{75} =$$

DJELOMIČNO KORJENUJ :

$$13.) \sqrt{28} =$$

$$14.) \sqrt{500} =$$

$$15.) \sqrt{a^5} =$$

$$16.) \sqrt[3]{x^5} =$$

$$17.) \sqrt[4]{a^{11}} =$$

$$18.) \sqrt[3]{16a^{10}} =$$

RACIONALIZIRAJ NAZIVNIK:

$$19.) \frac{8}{\sqrt{6}} = \quad 20.) \frac{x}{\sqrt{2x}} = \quad 21.) \frac{9}{\sqrt{10+1}} =$$

$$22.) \frac{6}{\sqrt{7}-2} = \quad 23.) \frac{5}{3\sqrt{2}+\sqrt{3}} = \quad 24.) \frac{\sqrt{2}-1}{5\sqrt{2}+7} =$$

$$25.) \frac{a\sqrt{a}-1}{a+\sqrt{a}} \quad 26.) \frac{2}{\sqrt[3]{2x^2}} = \quad 27.) \frac{a}{\sqrt[5]{a^3}} =$$

IZRAZI a IZ IZRAZA:

$$28.) \frac{a^3 \cdot b}{c} = c \quad 29.) \sqrt[5]{a-x} = y$$

$$30.) \sqrt[4]{a^3+b^2} = c \quad 31.) \sqrt{(a-5)^2+2} = b$$

RIJEŠI JEDNADŽBE:

$$32.) \sqrt{7-3x} = 2 \quad 33.) \sqrt{4x-5} = 2\sqrt{x} - 5$$

$$34.) \sqrt{x^2+3} - 1 = x \quad 35.) \sqrt{x-2} + \sqrt{x+2} = 2$$

NAPIŠI KAO POTENCIJU:

$$36.) \sqrt[7]{x^5} + \sqrt[9]{xy^2} = \quad 37.) \sqrt[4]{x^3} - \sqrt[5]{x} =$$

NAPIŠI KAO KORIJEN:

$$38.) y^{\frac{2}{7}} = \quad 39.) a^{\frac{9}{4}} = \quad 40.) b^{-\frac{1}{6}} =$$

RJEŠENJA :

$$1.) 12\sqrt{2} - 3\sqrt{5} \quad 2.) 6\sqrt[3]{x^2} + 9\sqrt[3]{x}$$

$$3.) 81 \cdot 2 - 2 \cdot 9 \cdot \sqrt{2} \cdot 5 + 25 = 187 - 90\sqrt{2}$$

$$4.) 28\sqrt{2} - 7 \cdot 2 - 12 + 3\sqrt{2} = 31\sqrt{2} - 26$$

$$5.) 25 \cdot 3 - 4 \cdot 5 = 55$$

$$6.) \sqrt[40]{a^6} = \sqrt[20]{a^3} \quad 7.) \sqrt[8]{a^3} : \sqrt[4]{a^2} = \sqrt[4]{a}$$

$$8.) \sqrt[30]{x^{21}} \cdot \sqrt[30]{x^4} = \sqrt[30]{x^{25}} = \sqrt[6]{x^5}$$

$$9.) \sqrt[3]{\sqrt{x^3}} \cdot \sqrt[12]{x^2} = \sqrt[6]{x^3} \cdot \sqrt[6]{x} = \sqrt[6]{x^4} = \sqrt[3]{x^2}$$

$$10.) (2^5)^{-\frac{2}{5}} = 2^{-2} = \frac{1}{4} \quad 11.) (2^4)^{-\frac{2}{4}} + (5^{-2})^{-\frac{1}{2}} = 2^{-3} + 5^1 = \frac{1}{8} + 5 = \frac{41}{8}$$

$$12.) \underline{3 \cdot 10\sqrt{2}} - 5 \cdot 2\sqrt{3} + \underline{7 \cdot 3\sqrt{2}} - 2 \cdot 5\sqrt{3} = 51\sqrt{2} - 20\sqrt{3}$$

$$13.) \sqrt{4 \cdot 7} = 2\sqrt{7} \quad 14.) \sqrt{100 \cdot 5} = 10\sqrt{5} \quad 15.) \sqrt{a^4 \cdot a} = a^2 \cdot \sqrt{a}$$

$$16.) \sqrt[3]{x^3 \cdot x^2} = x \cdot \sqrt[3]{x^2} \quad 17.) \sqrt[4]{a^3 \cdot a^3} = a^2 \cdot \sqrt[4]{a^3} \quad 18.) \sqrt[3]{2^3 \cdot 2 \cdot a \cdot a} = 2a \cdot \sqrt[3]{2a}$$

$$19.) \frac{8 \cdot \sqrt{6}}{\sqrt{6} \sqrt{6}} = \frac{4\sqrt{6}}{3} \quad 20.) \frac{x}{\sqrt{2x}} \cdot \frac{\sqrt{2x}}{\sqrt{2x}} = \frac{\sqrt{2x}}{2}$$

$$21.) \frac{9}{\sqrt{10}+1} \cdot \frac{\sqrt{10}-1}{\sqrt{10}-1} = \frac{9 \cdot (\sqrt{10}-1)}{\underbrace{10-1}_9} = \sqrt{10} - 1$$

$$22.) \frac{6}{\sqrt{7}-2} \cdot \frac{\sqrt{7}+2}{\sqrt{7}+2} = \frac{6 \cdot (\sqrt{7}+2)}{\underbrace{\sqrt{7}^2 - 2^2}_3} = 2 \cdot (\sqrt{7}+2)$$

$$23.) \frac{5}{3\sqrt{2}+\sqrt{3}} \cdot \frac{3\sqrt{2}-\sqrt{3}}{3\sqrt{2}-\sqrt{3}} = \frac{3\sqrt{2}-\sqrt{3}}{3}$$

$9 \cdot 2 - 3 = 15$

$$24.) \frac{\sqrt{2}-1}{5\sqrt{2}+7} \cdot \frac{5\sqrt{2}-7}{5\sqrt{2}-7} = \frac{5 \cdot 2 - 7\sqrt{2} - 5\sqrt{2} + 7}{1} = 17 - 12\sqrt{2}$$

$25 \cdot 2 - 49 = 1$

$$25.) \frac{a\sqrt{a}-1}{a+\sqrt{a}} \cdot \frac{a-\sqrt{a}}{a-\sqrt{a}} = \frac{a^2\sqrt{a}-a \cdot a - a + \sqrt{a}}{a^2-a} = \frac{a^2\sqrt{a} + \sqrt{a} - a^2 - a}{a \cdot (a-1)}$$

$$26.) \frac{2}{\sqrt[3]{2x^2}} \cdot \frac{\sqrt[3]{2^2x}}{\sqrt[3]{2x}} = \frac{\sqrt[3]{4x}}{x} \quad 27.) \frac{a}{\sqrt[5]{a^3}} \cdot \frac{\sqrt[5]{a^2}}{\sqrt[5]{a^2}} = \frac{a \cdot \sqrt[5]{a^2}}{a} = \sqrt[5]{a^2}$$

$\sqrt[3]{2^2x^3} = 2x$ $\sqrt[5]{a^5} = a$

$$28.) \frac{a^3 \cdot b}{c} = c / \cdot c$$

$$a^3 \cdot b = c^2 \quad | : b$$

$$a^3 = \frac{c^2}{b} \Rightarrow a = \sqrt[3]{\frac{c^2}{b}}$$

$$29.) \sqrt[5]{a-x} = y / \sqrt[5]{} \quad 30.) \sqrt[4]{a^3+b^2} = c / \sqrt[4]{}$$

$$a-x = y^5 \quad a^3+b^2 = c^4$$

$$a = y^5 + x \quad a^3 = c^4 - b^2$$

$$a = \sqrt[3]{c^4 - b^2}$$

$$31.) \sqrt{}^2 \Rightarrow (a-5)^2 = b^2 - 2 \Rightarrow |a-5| = \sqrt{b^2-2}$$

$$a-5 = \pm \sqrt{b^2-2} \Rightarrow a = 5 \pm \sqrt{b^2-2}$$

$$32.) \sqrt{}^2 \Rightarrow 7-3x=4$$

$$-3x = -3 \quad | : (-3)$$

$$x=1 \rightarrow \text{proujera:}$$

$$\sqrt{7-3 \cdot 1} = \sqrt{4} = 2 \quad \checkmark \quad \boxed{x=1}$$

$$33.) \sqrt{}^2 \Rightarrow 4x-5 = 4x - 20\sqrt{x} + 25$$

$$20\sqrt{x} = 30 \quad | : 20$$

$$\sqrt{x} = \frac{3}{2} \quad \sqrt{}^2 \Rightarrow x = \frac{9}{4}$$

$$\text{proujera: } \sqrt{4 \cdot \frac{9}{4} - 5} = \sqrt{4} = 2$$

$$2 \cdot \sqrt{\frac{9}{4}} - 5 = 2 \cdot \frac{3}{2} - 5 = -2 \quad \neq$$

\Rightarrow nema rješenja

$$34.) \sqrt{x+3} = x+1 \quad |^2$$

$$x+3 = x^2+2x+1$$

$$-2x = -2 \quad | : -2$$

$$x=1$$

$$\text{proujera: } \sqrt{1^2+3} - 1 = 1 \quad \checkmark$$

$$\Rightarrow \boxed{x=1}$$

$$35.) \sqrt{}^2 \rightarrow x-2 + 2 \cdot \sqrt{x^2-4} + x+2 = 4$$

$$2 \cdot \sqrt{x^2-4} = 4-2x \quad | : 2$$

$$\sqrt{x^2-4} = 2-x \quad |^2$$

$$x^2-4 = 4-4x+x^2$$

$$4x = 8 \quad | : 4 \Rightarrow x=2$$

$$\text{proujera } \sqrt{2-2} + \sqrt{2+2} = 2$$

$$\Rightarrow \boxed{x=2}$$

$$36.) x^{\frac{5}{3}} + x^{\frac{1}{3}} \cdot y^{\frac{2}{3}}$$

$$37.) (x^3 - x^{\frac{1}{5}})^{\frac{1}{4}}$$

$$38.) \sqrt[7]{y^2}$$

$$39.) \sqrt[4]{a^9} = \sqrt[4]{a^8 \cdot a} = a^2 \cdot \sqrt[4]{a}$$

$$40.) \frac{1}{\sqrt[6]{b}} \cdot \frac{\sqrt[6]{b^5}}{\sqrt[6]{b^5}} = \frac{\sqrt[6]{b^5}}{b}$$