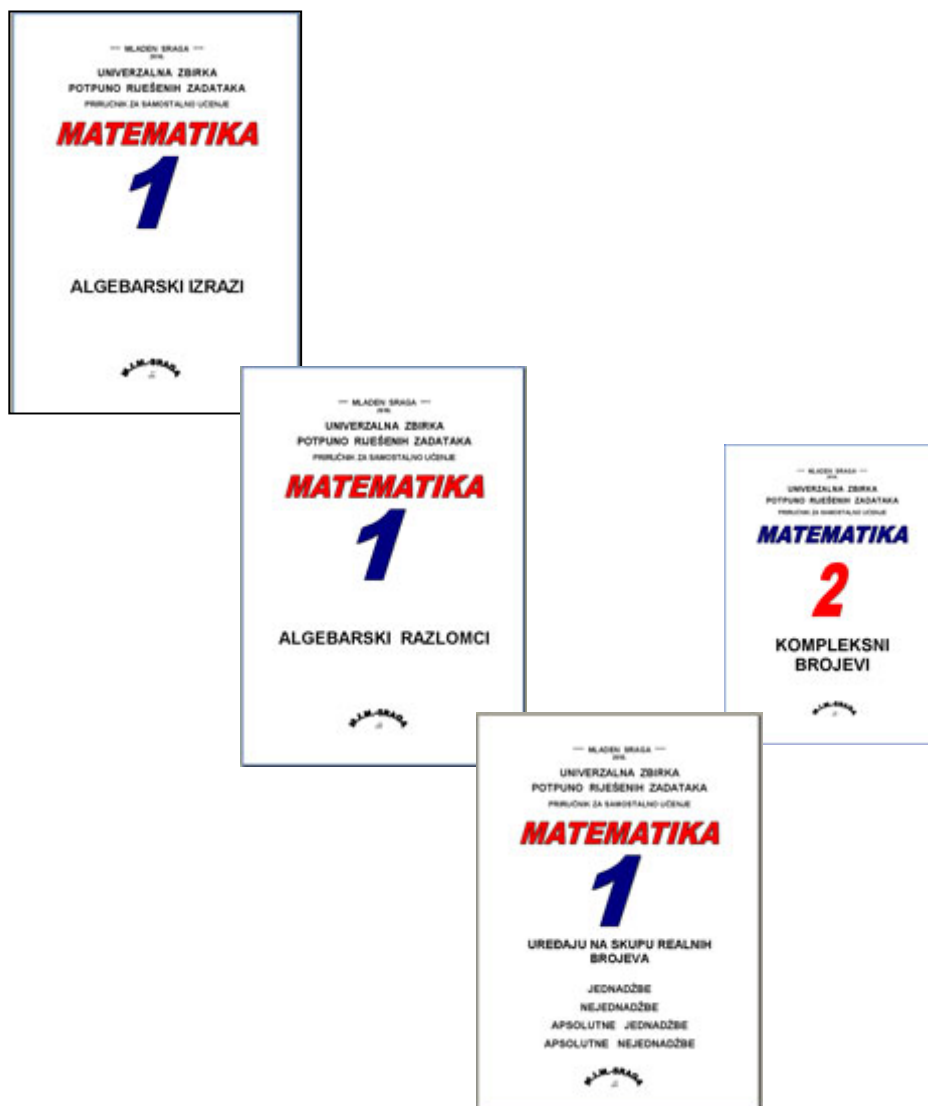


Rješenja testa su od 2.strane na dalje...

Iz naše ponude izdvajamo
Zbirke potpuno riješenih zadataka priručnici za samostalno učenje:
Matematika-1-prvo polugodište:



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zatražite na mail: mim-sraga@zg.htnet.hr

ili na naše telefone 01-4578-431 , 4579-130

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RJEŠENJA ZA INICIJALNI TEST BR.2
MATEMATIKA -1-

$$\begin{aligned} 1) & [(15:3)-(9-12)] + \left(\frac{3}{7} - \frac{4}{9}\right) - \left(\frac{5}{6} - \frac{3}{6}\right) = \\ & = [5 - (-3)] + \left(\frac{3 \cdot 9 - 4}{9}\right) - \frac{2}{6} = \\ & = 5 + 3 + \frac{27-4}{9} - \frac{1}{3} = \frac{8}{1} + \frac{23}{9} - \frac{1}{3} = \frac{8 \cdot 9}{9} + \frac{23}{9} - \frac{3}{9} = \\ & = \frac{72}{9} + \frac{23}{9} - \frac{3}{9} = \frac{72+20}{9} = \frac{92}{9} // \end{aligned}$$

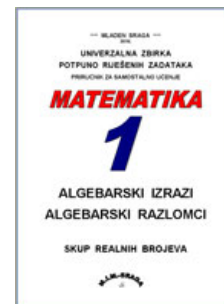
$$2) \left[(2,4+3,6) \cdot \frac{14}{15} \right] \cdot \frac{5}{2} = \frac{6}{1} \cdot \frac{14}{15} \cdot \frac{2 \cdot 2}{5 \cdot 15} = \frac{28}{5} \cdot \frac{4}{75} = \frac{112}{375} //$$

$$3) \left(\frac{1}{2} - \frac{1}{3}\right) : \left(\frac{2}{3} + \frac{5}{4}\right) = \frac{3-2}{2 \cdot 3} : \frac{2 \cdot 4 + 5 \cdot 3}{3 \cdot 4} = \frac{1}{6} \cdot \frac{8+15}{12} = \frac{1}{6} \cdot \frac{23}{12} = \frac{1}{6} \cdot \frac{4 \cdot 23}{3 \cdot 12} = \frac{2}{23} //$$

$$4) 30\% \text{ od } 180 = ? \quad \frac{30}{100} \cdot \frac{180}{1} = \frac{30}{100} \cdot \frac{18}{1} = \frac{3 \cdot 18}{1} = 54 //$$

5) 30 je 25% od kojeg broja?

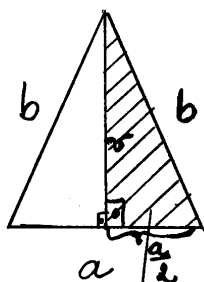
$$\begin{aligned} 25\% \text{ od } x &= 30 \\ \frac{25}{100} \cdot x &= 30 \\ \frac{1}{4} x &= 30 \quad | \cdot 4 \\ x &= 120 // \end{aligned}$$



Zbirke potpuno riješenih zadataka za samostalno učenje matematike

6) Duljina osnovice jednakokračnog trokuta je 8 cm, visina tog trokuta je 4 cm.

- Koliki je krak tog trokuta?
- Kolika je površina tog trokuta?
- Koliki je opseg tog trokuta?



- jednakokrani trokut

$$a = 8 \text{ cm}$$

$$v = 4 \text{ cm}$$

$$a) b = ?$$

$$b) P = ?$$

$$c) \sigma = ?$$

a) Pomću PITAGORE - izračunajmo krak b.

$$b^2 = v^2 + \left(\frac{a}{2}\right)^2$$

$$b^2 = 4^2 + \left(\frac{8}{2}\right)^2$$

$$b^2 = 16 + 4^2$$

$$b^2 = 16 + 16$$

$$b^2 = 32 / \sqrt{\quad}$$

$$b = \sqrt{32}$$

$$b = \sqrt{16 \cdot 2} = 4\sqrt{2} \text{ cm}$$

b) Površina trokuta P:

$$P = \frac{a \cdot v}{2}$$

$$P = \frac{8 \cdot 4}{2}$$

$$P = 8 \cdot 2$$

$$P = 16 \text{ cm}^2$$

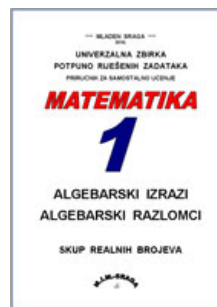
c) opseg trokuta σ :

$$\sigma = a + 2b$$

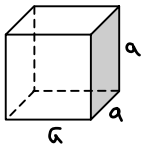
$$\sigma = 8 + 2 \cdot 4\sqrt{2}$$

$$\sigma = 8 + 8\sqrt{2} \text{ cm}$$

$$\sigma = 8(1 + \sqrt{2}) \text{ cm}$$



7) Izračunaj oplošje kocke ako joj je volumen 125cm^3 ?



$$V = a^3$$

$$125 = a^3$$

$$a^3 = 125 / \sqrt[3]{}$$

$$a = \sqrt[3]{125} = \sqrt[3]{5^3}$$

$$a = \underline{\underline{5\text{cm}}}$$

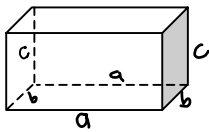
$$O = 6 \cdot a^2$$

$$O = 6 \cdot 5^2$$

$$O = 6 \cdot 25$$

$$O = \underline{\underline{150\text{cm}^2}}$$

8) Izračunaj volumen kvadra ako je $a = 4$, $b = 5$, $c = 6$

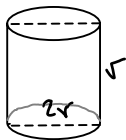


$$V = a \cdot b \cdot c$$

$$V = 4 \cdot 5 \cdot 6$$

$$V = \underline{\underline{120}}$$

9) Izračunaj oplošje i volumen valjka ako mu je promjer baze 10cm , a visina 4cm



$$O = 2 \cdot r \cdot \pi \cdot (r + v)$$

$$O = 2 \cdot 5 \cdot \pi \cdot (5 + 4)$$

$$O = 10\pi \cdot 9$$

$$O = \underline{\underline{90\pi\text{cm}^2}}$$

$$\textcircled{1} \quad 2r = 10 / 2$$

$$r = 5$$

$$v = 4$$

$$\textcircled{3} \quad V = r^2 \cdot \pi \cdot v$$

$$V = 5^2 \cdot \pi \cdot 4 = 25\pi \cdot 4$$

$$V = \underline{\underline{100\pi\text{cm}^3}}$$

10) $(3x-2)^2 = (3x)^2 - 2 \cdot 3x \cdot 2 + 2^2 = 3^2 \cdot x^2 - 12x + 4 = 9x^2 - 12x + 4$

$$(a-b)^2 = a^2 - 2ab + b^2$$

$$(a+b) \cdot (a-b) = a^2 - b^2$$

11) $(2x-3y)^2 - (2x+3y)(2x-3y) =$

$$= (2x)^2 - 2 \cdot 2x \cdot 3y + (3y)^2 - [(2x)^2 - (3y)^2] =$$

$$= 4x^2 - 12xy + 9y^2 - (4x^2 - 9y^2) =$$

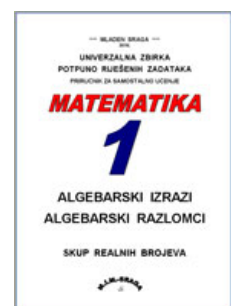
$$= 4x^2 - 12xy + 9y^2 - 4x^2 + 9y^2 =$$

$$= \underbrace{4x^2 - 4x^2}_{=0} - 12xy + 9y^2 + 9y^2 =$$

$$= -12xy + 18y^2 =$$

$$= \underline{\underline{18y^2 - 12xy}}$$

$(a \cdot b)^n = a^n \cdot b^n$
 $(3y)^2 = 3^2 \cdot y^2 = 9y^2$



12) Riješi jednađzbu

$$\begin{aligned}3(x-2) + 2(3-x) &= 5(2x-4) \\3x - \cancel{6} + \cancel{6} - 2x &= 10x - 20 \\(3-2-1)x &= -20 \\-9x &= -20 \quad | : (-9) \\x &= \frac{20}{9} \parallel\end{aligned}$$

13) Riješi jednađzbu

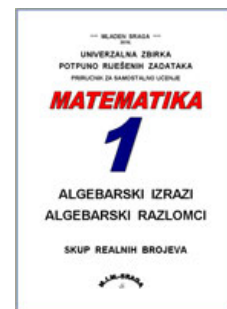
$$\begin{aligned}2x^2 - 50 &= 0 \quad | : 2 \\x^2 - 25 &= 0 \\x^2 - 5^2 &= 0 \\a^2 - b^2 &= (a-b)(a+b)\end{aligned}$$

$a \cdot b = 0 \Rightarrow a = 0, b = 0$

$$\begin{aligned}(x-5)(x+5) &= 0 \\ \downarrow \quad \downarrow \\x-5=0 \quad x+5=0 \\x=5 \parallel \quad x=-5 \parallel\end{aligned}$$

14) Riješi nejednađzbu

$$\begin{aligned}2\left(\frac{1}{2}x - 3\right) &\geq 5\left(x - \frac{2}{5}\right) - (3x + 2) \\2 \cdot \frac{1}{2}x - 2 \cdot 3 &\geq 5x - 5 \cdot \frac{2}{5} - 3x - 2 \\x - 6 &\geq 5x - 2 - 3x - 2 \\x - 5x + 3x &\geq 6 - 2 - 2 \\-x &\geq 2 \quad | \cdot (-1) \\x &\leq -2 \parallel \\&=_{11} \quad x \in \langle -\infty, -2 \rangle\end{aligned}$$



15) Odredi koeficijent smjera pravca $2x + 3y - 4 = 0$

$$\begin{aligned}3y &= -2x + 4 \quad | \cdot \frac{1}{3} \\y &= -\frac{2}{3}x + \frac{4}{3} \\y &= ax + b \\a &= -\frac{2}{3} \parallel\end{aligned}$$

16)

↓

16) Riješi sustav jednačbi

$$x + y + 2 = 0 \quad , \quad 4x - y - 8 = 0$$

$$\begin{array}{r} x + y + 2 = 0 \\ 4x - y - 8 = 0 \end{array} \quad \left. \vphantom{\begin{array}{r} x + y + 2 = 0 \\ 4x - y - 8 = 0 \end{array}} \right\} +$$

$$5x - 6 = 0$$
$$5x = 6 / 5$$
$$x = \frac{6}{5}$$

$$x + y + 2 = 0$$

$$y = -x - 2 \quad , \quad x = \frac{6}{5}$$

$$y = -\frac{6}{5} - 2$$

$$y = -\frac{6}{5} - \frac{10}{5}$$

$$y = -\frac{16}{5}$$

$$Rj. \left(\frac{6}{5}, -\frac{16}{5} \right)$$

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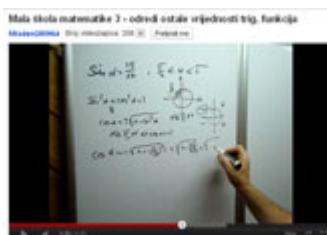
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