

Univerzitet u Tuzli
Fakultet elektrotehnike

KATALOG

**rješениh zadataka sa prijemni ispit iz Matematike na
studijskom programu "Tehnički odgoj i informatika"**

Tuzla, januar 2026.

1.	Vrijednost izraza $\frac{\frac{9}{3} - \frac{4}{2}}{\frac{2}{2} - \frac{3}{3}} \cdot \frac{6}{13}$ je:
	a) 1 b) $\frac{6}{13}$ c) $-\frac{6}{13}$ d) $\frac{6}{5}$
2.	Vrijednost izraza $\left[\frac{2}{3} - \frac{4}{5} \left(2 - \frac{1}{2} \right) \right] : \left[-\frac{4}{3} + \frac{8}{9} \left(2 + \frac{2}{5} \right) \right]$ je:
	a) $\frac{2}{3}$ b) $-\frac{3}{2}$ c) $\frac{3}{2}$ d) $-\frac{2}{3}$
3.	Pojednostavljenjem izraza $\left(a + \frac{9}{a-6} \right) \cdot \left(\frac{12}{a^2-3a} - \frac{a}{9-6a+a^2} \right)$
	a) $\frac{a-6}{a}$ b) $-\frac{a-6}{a}$ c) $\frac{6+a}{a}$ d) $-\frac{6+a}{a}$
4.	Proizvod rješenja sistema $2x - y = 4$ i $x + 3y = -5$ je:
	a) -1 b) 1 c) -2 d) 2
5.	Vrijednost izraza $\left(\sqrt[4]{\sqrt{a^8}} \right)^3 : \left(\sqrt[6]{\sqrt[3]{a^9}} \right)^4$ je:
	a) $a^{\frac{4}{3}}$ b) a c) $a^{\frac{2}{3}}$ d) $a^{\frac{1}{3}}$
6.	Proizvod realnih rješenja jednačine $2x^2 - 5x + 2 = 0$ je:
	a) 1 b) $\frac{1}{4}$ c) -4 d) -1
7.	Skup realnih rješenja nejednačine $\frac{2x+1}{x-1} < 0$ je:
	a) $\left(-1, -\frac{1}{2} \right)$ b) $\left(-\frac{1}{2}, 1 \right)$ c) $(1, +\infty)$ d) $(-\infty, -1)$
8.	Modul kompleksnog broja $Z = \frac{-3+i}{2-i}$ je:
	a) $\sqrt{10}$ b) 10 c) $\sqrt{2}$ d) 2
9.	Ako je $\cos 3x = \frac{1}{2}$, odrediti x tako da $x \in \left[0, \frac{\pi}{2} \right]$:
	a) $\frac{\pi}{9}$ b) $\frac{\pi}{3}$ c) $\frac{\pi}{6}$ d) $\frac{\pi}{2}$
10.	Za pravougli trougao su poznate vrijednosti katete 3 i hipotenuze 5. Koliko iznosi druga kateta?
	a) 8 b) 2 c) 12 d) 4

1.	$\frac{9}{2} \cdot \frac{4}{3} \cdot \frac{6}{2} \cdot \frac{6}{13} = \frac{81-16}{9-4} \cdot \frac{6}{6} \cdot \frac{6}{13} = \frac{65}{5} \cdot \frac{6}{13} = \frac{65 \cdot 6}{36 \cdot 5} \cdot \frac{6}{13} = 1$	a) 1	b) $\frac{6}{13}$	c) $-\frac{6}{13}$	d) $\frac{6}{5}$																				
2.	$\left[\frac{2}{3} - \frac{4}{5} \left(2 - \frac{1}{2} \right) \right] : \left[-\frac{4}{3} + \frac{8}{9} \left(2 + \frac{2}{5} \right) \right] = \left(\frac{2}{3} - \frac{4}{5} \cdot \frac{4-1}{2} \right) : \left(-\frac{4}{3} + \frac{8}{9} \cdot \frac{12}{5} \right) =$ $\left(\frac{2}{3} - \frac{6}{5} \right) : \left(-\frac{4}{3} + \frac{32}{15} \right) = \frac{10-18}{15} : \frac{-20+32}{15} = \frac{-8}{15} \cdot \frac{15}{-12} = \frac{2}{3}$	a) $\frac{2}{3}$	b) $-\frac{3}{2}$	c) $\frac{3}{2}$	d) $-\frac{2}{3}$																				
3.	$\left(a + \frac{9}{a-6} \right) \cdot \left(\frac{12}{a^2-3a} - \frac{a}{9-6a+a^2} \right) = \frac{a^2-6a+9}{a-6} \cdot \left[\frac{12}{a(a-3)} - \frac{a^2}{(a-3)^2} \right] =$ $\frac{(a-3)^2}{a-6} \cdot \frac{12a-36-a^2}{a \cdot (a-3)^2} = \frac{1}{a-6} \cdot \frac{-(a-6)^2}{a} = -\frac{a-6}{a}$	a) $\frac{a-6}{a}$	b) $-\frac{a-6}{a}$	c) $\frac{6+a}{a}$	d) $-\frac{6+a}{a}$																				
4.	$2x - y = 4 \quad / \cdot 3$ $x + 3y = -5$ $6x - 3y = 12$ $x + 3y = -5$ $7x = 7 \Rightarrow x = 1$ $1 + 3y = -5 \Rightarrow y = -2$ $x \cdot y = -2$	a) -1	b) 1	c) -2	d) 2																				
5.	$\left(\sqrt[4]{\sqrt[4]{a^8}} \right)^3 : \left(\sqrt[6]{\sqrt[3]{a^9}} \right)^4 = \left(\sqrt[8]{a^8} \right)^3 : \left(\sqrt[18]{a^9} \right)^4 = a^3 : \left(\sqrt{a} \right)^4 = a^3 : a^2 = a$	a) $a^{\frac{4}{3}}$	b) a	c) $a^{\frac{2}{3}}$	d) $a^{\frac{1}{3}}$																				
6.	$2x^2 - 5x + 2 = 0$ <i>Po Viete – ovim pravila proizvod rješenja kvadratne jednačine $ax^2 + bx + c = 0$ je:</i> $x_1 \cdot x_2 = \frac{c}{a} = \frac{2}{2} = 1$	a) 1	b) $\frac{1}{4}$	c) -4	d) -1																				
7.	$\frac{2x+1}{x-1} < 0;$ $2x+1 > 0 \Rightarrow x > -\frac{1}{2}$ $x-1 > 0 \Rightarrow x > 1$	<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th>$-\infty$</th> <th>$-1/2$</th> <th>1</th> <th>$+\infty$</th> </tr> </thead> <tbody> <tr> <td>$2x+1$</td> <td></td> <td>-</td> <td>+</td> <td>+</td> </tr> <tr> <td>$x-1$</td> <td></td> <td>-</td> <td>-</td> <td>+</td> </tr> <tr> <td></td> <td></td> <td>+</td> <td>-</td> <td>+</td> </tr> </tbody> </table>					$-\infty$	$-1/2$	1	$+\infty$	$2x+1$		-	+	+	$x-1$		-	-	+			+	-	+
	$-\infty$	$-1/2$	1	$+\infty$																					
$2x+1$		-	+	+																					
$x-1$		-	-	+																					
		+	-	+																					

	$x \in \left(-\frac{1}{2}, 1\right)$			
	a) $\left(-1, -\frac{1}{2}\right)$	b) $\left(-\frac{1}{2}, 1\right)$	c) $(1, +\infty)$	d) $(-\infty, -1)$
8.	$Z = \frac{-3+i}{2-i}$ $ Z = \frac{ -3+i }{ 2-i } = \frac{ -3+i }{\sqrt{2^2+(-1)^2}} = \frac{\sqrt{(-3)^2+1^2}}{\sqrt{5}} = \frac{\sqrt{10}}{\sqrt{5}} = \sqrt{2}$			
	a) $\sqrt{10}$	b) 10	c) $\sqrt{2}$	d) 2
9.	$\cos 3x = \frac{1}{2}$ <p>Za I kvadrant vrijedi: $3x = \frac{\pi}{3} \Rightarrow x = \frac{\pi}{9}$.</p>			
	a) $\frac{\pi}{9}$	b) $\frac{\pi}{3}$	c) $\frac{\pi}{6}$	d) $\frac{\pi}{2}$
10.	<p>Poznato je kateta $a = 3$ i hipotenuza $c = 5$. Druga kateta se može izračunati po Pitagorinoj teoremi:</p> $b = \sqrt{c^2 - a^2} = \sqrt{5^2 - 3^2} = 4.$			
	a) 8	b) 2	c) 12	d) 4

1.	$\sqrt{\frac{3}{16} \cdot \left(8 + \frac{1}{3}\right) + \frac{1}{25}} = \sqrt{\frac{3}{16} \cdot \frac{24+1}{3} + \frac{1}{25}} = \sqrt{\frac{3}{16} \cdot \frac{3}{25} + \frac{1}{25}} = \sqrt{\frac{9}{400} + \frac{1}{25}} = \sqrt{\frac{9+16}{400}} = \sqrt{\frac{25}{400}}$ $-\frac{5}{20} - \frac{1}{4}$
	<p>a) 2 b) $\frac{1}{4}$ c) $\frac{1}{2}$ d) 1</p>
2.	$\left[\frac{2}{3} - \frac{4}{5} \left(2 + \frac{1}{2}\right)\right] : \left[\frac{4}{3} - \frac{8}{9} \left(2 + \frac{2}{5}\right)\right] = \left[\frac{2}{3} - \frac{4}{5} \cdot \frac{5}{2}\right] : \left[\frac{4}{3} - \frac{8}{9} \cdot \frac{12}{5}\right] = \left[\frac{2}{3} - 2\right] : \left[\frac{4}{3} - \frac{8}{3} \cdot \frac{4}{5}\right] = \frac{4}{3} : \frac{20}{15} - \frac{32}{15}$ $= \frac{-4}{3} \cdot \left(\frac{15}{-12}\right) = \frac{5}{3}$
	<p>a) $-\frac{1}{2}$ b) $-\frac{5}{3}$ c) $\frac{1}{2}$ d) $\frac{5}{3}$</p>
3.	$\left[\frac{b}{b+c-a} \cdot \left(\frac{1}{a} - \frac{1}{b+c}\right)\right] (b+c) = \left[\frac{b}{b+c-a} \cdot \frac{b+c-a}{a(b+c)}\right] (b+c) = \frac{b}{a(b+c)} (b+c) = \frac{b}{a}$
	<p>a) $\frac{b}{a}$ b) $\frac{a}{b+c-a}$ c) $\frac{b+c}{b+c-a}$ d) $b+c$</p>
4.	$2x + 4y = -2 / : 2$ $\underline{-3x + 5y = 3}$ $x + 2y = -1$ $\underline{-3x + 5y = 3}$ $x = -1 - 2y$ $\underline{-3 \cdot (-1 - 2y) + 5y = 3}$ $x = -1 - 2y$ $\underline{3 + 6y + 5y = 3 \Rightarrow y = 0}$ $x = -1 - 2 \cdot 0 \Rightarrow x = -1$ $x + y = -1 + 0 = -1$
	<p>a) -2 b) -1 c) 0 d) 1</p>
5.	$\sqrt{x^3} : \sqrt{x^2} = x^{\frac{3}{2}} : x^{\frac{2}{2}} = x^{\frac{3}{2} - \frac{2}{2}} = x^{\frac{1}{2}} = \sqrt{x}$
	<p>a) $\sqrt[3]{x}$ b) x^2 c) $\sqrt[6]{x^5}$ d) $\sqrt[3]{x^2}$</p>
6.	$x^2 - 3x + 2 = 0$ <p>Po Viete - ovim pravilima zbir rješenja kvadratne jednačine $ax^2 + bx + c = 0$ je:</p> $x_1 + x_2 = \frac{-b}{a} = \frac{3}{1} = 3$
	<p>a) 2 b) -3 c) -2 d) 3</p>

7.	$\frac{3x+1}{4x+1} \geq 1$ $\frac{3x+1}{4x+1} - 1 \geq 0$ $\frac{3x+1 - (4x+1)}{4x+1} \geq 0$ $\frac{-x}{4x+1} \geq 0$ $\frac{x}{4x+1} \leq 0$ $x = 0$ $4x+1 = 0 \rightarrow x = -\frac{1}{4}$	<table style="margin-left: auto; margin-right: auto;"> <tr> <td></td> <td style="text-align: center;">$-\infty$</td> <td style="text-align: center;">$-\frac{1}{4}$</td> <td style="text-align: center;">0</td> <td style="text-align: center;">∞</td> </tr> <tr> <td style="border-right: 1px solid black; padding-right: 5px;">x</td> <td style="border-right: 1px solid black; text-align: center;">-</td> <td style="border-right: 1px solid black; text-align: center;">-</td> <td style="border-right: 1px solid black; text-align: center;">+</td> <td style="text-align: center;">+</td> </tr> <tr> <td style="border-right: 1px solid black; padding-right: 5px;">$\frac{4x+1}{x}$</td> <td style="border-right: 1px solid black; text-align: center;">-</td> <td style="border-right: 1px solid black; text-align: center;">+</td> <td style="border-right: 1px solid black; text-align: center;">+</td> <td style="text-align: center;">+</td> </tr> <tr> <td style="border-right: 1px solid black; padding-right: 5px;">$\frac{x}{4x+1}$</td> <td style="border-right: 1px solid black; text-align: center;">+</td> <td style="border-right: 1px solid black; text-align: center;">-</td> <td style="border-right: 1px solid black; text-align: center;">+</td> <td style="text-align: center;">+</td> </tr> </table>		$-\infty$	$-\frac{1}{4}$	0	∞	x	-	-	+	+	$\frac{4x+1}{x}$	-	+	+	+	$\frac{x}{4x+1}$	+	-	+	+
	$-\infty$	$-\frac{1}{4}$	0	∞																		
x	-	-	+	+																		
$\frac{4x+1}{x}$	-	+	+	+																		
$\frac{x}{4x+1}$	+	-	+	+																		
	a) $(0, 2]$ b) $(0, +\infty)$	c) $\left(-\frac{1}{4}, 0\right]$ d) $\left[-2, -\frac{1}{4}\right)$																				
8.	$Z = \frac{1 + 3i}{-2 + i}$ $ Z = \frac{ -1 + 3i }{ -2 + i } = \frac{ -1 + 3i }{ -2 + i } = \frac{\sqrt{(-1)^2 + 3^2}}{\sqrt{2^2 + (-1)^2}} = \frac{\sqrt{10}}{\sqrt{5}} = \sqrt{2}$																					
	a) $\sqrt{2}$ b) $\sqrt{10}$	c) 2 d) 5																				
9.	$\cos 2x = \frac{\sqrt{2}}{2}$ <p>Za I kvadrant vrijedi: $2x = \frac{\pi}{4} \Rightarrow x = \frac{\pi}{8}$.</p>																					
	a) $\frac{\pi}{2}$ b) $\frac{\pi}{4}$	c) $\frac{\pi}{8}$ d) $\frac{\pi}{12}$																				
10.	<p>Dijagonala pravougaonika može se izračunati primjenom Pitagorine teoreme. Dijagonala je hipotenuza a stranice pravougaonika su katete pravouglog trougla, pa vrijedi:</p> $d = \sqrt{a^2 + b^2} = \sqrt{6^2 + 8^2} = 10.$																					
	a) 14 b) 10	c) 7 d) 2																				

1.	Ako je $a = \frac{\sqrt{5}+1}{2}$ i $b = \frac{1-\sqrt{5}}{2}$, onda je $a^2 + b^2$:
	a) $2\sqrt{5}$ b) $\sqrt{5}$ c) 3 d) 1
2.	Vrijednost izraza $\sqrt[16]{\frac{3}{9}} \cdot \sqrt[3]{\frac{1}{25}} \cdot \left(\frac{8}{3}\right)^{\frac{1}{3}}$ je:
	a) $\frac{5}{3}$ b) $\frac{3}{5}$ c) $\frac{4}{5}$ d) 1
3.	Vrijednost izraza $\frac{8}{23} + \left[\frac{1}{2} + \left(\frac{1}{8} - \frac{1}{4}\right)\right] \cdot \frac{40}{23}$ je:
	a) $\frac{1}{23}$ b) $\frac{16}{23}$ c) -1 d) 1
4.	Vrijednost izraza $\left(\sqrt[6]{a^4}\right)^{12} : \left(\sqrt[3]{\sqrt[4]{a^6}}\right)^8$ je:
	a) a^2 b) a c) 1 d) $\frac{1}{a}$
5.	Zbir rješenja sistema $2x - 3y = 7$ i $3x + 2y = 4$ je:
	a) -1 b) 1 c) 2 d) -2
6.	Proizvod realnih rješenja jednačine $3x^2 - 5x - 2 = 0$ je:
	a) $-\frac{2}{3}$ b) $-\frac{5}{3}$ c) $\frac{5}{3}$ d) -1
7.	Skup realnih rješenja nejednačine $\frac{4x-1}{5x-1} \geq 1$ je:
	a) $\left[\frac{1}{5}, \frac{1}{4}\right]$ b) $\left[-\frac{1}{4}, -\frac{1}{5}\right]$ c) $\left[\frac{1}{5}, 1\right]$ d) $\left[0, \frac{1}{5}\right)$
8.	Modul kompleksnog broja $Z = \frac{3-4i}{-1+2i}$ je:
	a) $2\sqrt{5}$ b) $\sqrt{5}$ c) 5 d) 1
9.	Ako je $\sin 3x = \frac{\sqrt{3}}{2}$, odrediti x tako da $x \in \left[0, \frac{\pi}{2}\right]$:
	a) $\frac{\pi}{3}$ b) $\frac{\pi}{6}$ c) $\frac{\pi}{9}$ d) $\frac{\pi}{12}$
10.	Vrijednosti hipotenuze i jedne katete pravouglog trougla su 5 i 3. Koliko iznosi površina trougla?
	a) 6 b) 4 c) 12 d) 15

1.	$a^2 + b^2 = \frac{(\sqrt{5} + 1)^2 + (1 - \sqrt{5})^2}{2^2} = \frac{5 + 2\sqrt{5} + 1 + 1 - 2\sqrt{5} + 5}{4} = \frac{12}{4} = 3$
	a) $2\sqrt{5}$ b) $\sqrt{5}$ c) 3 d) 1
2.	$\sqrt{\frac{16}{9} + \frac{3}{25} \cdot \left(8 + \frac{1}{3}\right)} - \sqrt{\frac{16}{9} + \frac{3}{25} \cdot \left(\frac{24 + 1}{3}\right)} - \sqrt{\frac{16}{9} + 1} - \sqrt{\frac{16}{9} + \frac{9}{9}} - \sqrt{\frac{25}{9} - \frac{5}{3}}$
	a) $\frac{5}{3}$ b) $\frac{3}{5}$ c) $\frac{4}{5}$ d) 1
3.	$\frac{8}{23} + \left[\frac{1}{2} + \left(\frac{1}{8} - \frac{1}{4}\right)\right] \cdot \frac{40}{23} = \frac{8}{23} + \left[\frac{1}{2} - \frac{1}{8}\right] \cdot \frac{40}{23} = \frac{8}{23} + \frac{3}{8} \cdot \frac{40}{23} = \frac{8}{23} + \frac{15}{23} = 1$
	a) $\frac{1}{23}$ b) $\frac{16}{23}$ c) -1 d) 1
4.	$\left(\sqrt[6]{\sqrt[4]{a^4}}\right)^{12} : \left(\sqrt[3]{\sqrt[4]{a^6}}\right)^8 - \left(\sqrt[4]{a^6}\right)^{12} : \left(\sqrt[3]{a^4}\right)^8 - a^{\frac{4 \cdot 12}{6}} : a^{\frac{6 \cdot 8}{4}} - a^4 : a^4 - 1$
	a) a^2 b) a c) 1 d) $\frac{1}{a}$
5.	$\begin{aligned} 2x - 3y &= 7 \\ 3x + 2y &= 4 \\ \hline 2x - 3y + 3x + 2y &= 7 + 4 \\ 5x - y &= 11 \\ \underline{y = 5x - 11} \\ 3x + 2 \cdot (5x - 11) &= 4 \\ 13x &= 26 \rightarrow x = 2 \\ y &= 5 \cdot 2 - 11 = -1 \\ x + y &= 2 - 1 = 1 \end{aligned}$
	a) -1 b) 1 c) 2 d) -2
6.	$3x^2 - 5x - 2 = 0 \rightarrow ax^2 + bx + c = 0$ <p>Vietova pravila $x_1 \cdot x_2 = \frac{c}{a} = -\frac{2}{3}$</p>
	a) $-\frac{2}{3}$ b) $-\frac{5}{3}$ c) $\frac{5}{3}$ d) -1

7.	$\frac{4x-1}{5x-1} \geq 1$ $\frac{4x-1}{5x-1} - 1 \geq 0$ $\frac{4x-1-(5x-1)}{5x-1} \geq 0$ $\frac{-x}{5x-1} \geq 0$ $\frac{x}{5x-1} \leq 0$ $x = 0$ $5x-1-0 \Rightarrow x = \frac{1}{5}$	<table style="width: 100%; text-align: center; border-collapse: collapse;"> <tr> <td></td> <td>$-\infty$</td> <td>0</td> <td>$\frac{1}{5}$</td> <td>∞</td> </tr> <tr> <td style="border-right: 1px solid black; border-bottom: 1px solid black;">x</td> <td style="border-right: 1px solid black; border-bottom: 1px solid black;">-</td> <td style="border-right: 1px solid black; border-bottom: 1px solid black;">+</td> <td style="border-right: 1px solid black; border-bottom: 1px solid black;">+</td> <td style="border-bottom: 1px solid black;"></td> </tr> <tr> <td style="border-right: 1px solid black; border-bottom: 1px solid black;">$\frac{5x-1}{x}$</td> <td style="border-right: 1px solid black; border-bottom: 1px solid black;">-</td> <td style="border-right: 1px solid black; border-bottom: 1px solid black;">-</td> <td style="border-right: 1px solid black; border-bottom: 1px solid black;">+</td> <td style="border-bottom: 1px solid black;"></td> </tr> <tr> <td style="border-right: 1px solid black;">$\frac{x}{5x-1}$</td> <td style="border-right: 1px solid black;">+</td> <td style="border-right: 1px solid black;">-</td> <td style="border-right: 1px solid black;">+</td> <td></td> </tr> </table> $x \in \left[0, \frac{1}{5}\right)$		$-\infty$	0	$\frac{1}{5}$	∞	x	-	+	+		$\frac{5x-1}{x}$	-	-	+		$\frac{x}{5x-1}$	+	-	+	
	$-\infty$	0	$\frac{1}{5}$	∞																		
x	-	+	+																			
$\frac{5x-1}{x}$	-	-	+																			
$\frac{x}{5x-1}$	+	-	+																			
	a) $\left[\frac{1}{5}, \frac{1}{4}\right]$ b) $\left[-\frac{1}{4}, -\frac{1}{5}\right]$ c) $\left[\frac{1}{5}, 1\right]$ d) $\left[0, \frac{1}{5}\right)$																					
8.	$z = \frac{3-4i}{-1+2i} - \frac{3-4i}{-1+2i} \cdot \frac{-1-2i}{-1-2i} - \frac{-3-6i+4i+8i^2}{(-1)^2-(2i)^2} = \frac{-3-2i-8}{1+4} = -\frac{11}{5} - i\frac{2}{5}$ $ z = \sqrt{\left(-\frac{11}{5}\right)^2 + \left(-\frac{2}{5}\right)^2} = \sqrt{\frac{121+4}{25}} = \sqrt{5}$																					
	a) $2\sqrt{5}$ b) $\sqrt{5}$ c) 5 d) 1																					
9.	$\sin 3x = \frac{\sqrt{3}}{2}$ Za I kvadrant vrijedi: $3x - \frac{\pi}{3} \Rightarrow x = \frac{\pi}{9}$																					
	a) $\frac{\pi}{3}$ b) $\frac{\pi}{6}$ c) $\frac{\pi}{9}$ d) $\frac{\pi}{12}$																					
10.	$c = 5, a = 3$ $b^2 = c^2 - a^2 = 5^2 - 3^2 = 16 \rightarrow b = 4$ $P = \frac{ab}{2} = \frac{3 \cdot 4}{2} = 6$																					
	a) 6 b) 4 c) 12 d) 15																					

1.	$\sqrt{\frac{9}{16} + \frac{5}{3} \cdot \left(2 - \frac{1}{3}\right)} = \sqrt{\frac{9}{16} + \frac{5}{3} \cdot \left(\frac{6-1}{3}\right)} = \sqrt{\frac{9}{16} + \frac{5}{3} \cdot \left(\frac{5}{3}\right)} = \sqrt{\frac{9}{16} + 1} = \sqrt{\frac{9+16}{16}} = \sqrt{\frac{25}{16}} = \frac{5}{4}$
	a) $\frac{5}{4}$ b) 1 c) $\frac{4}{5}$ d) 2
2.	$a^2 - b^2 = \frac{(\sqrt{3}-1)^2 + (\sqrt{3}-1)^2}{2^2} = \frac{3 - 2\sqrt{3} + 1 - (3 + 2\sqrt{3} + 1)}{4} = \frac{-4\sqrt{3}}{4} = -\sqrt{3}$
	a) $-2\sqrt{3}$ b) $2\sqrt{3}$ c) 2 d) $-\sqrt{3}$
3.	$\frac{13}{18} + \left[\frac{1}{3} - \left(\frac{1}{6} - \frac{1}{9}\right)\right] \cdot \frac{7}{5} = \frac{13}{18} + \left[\frac{1}{3} - \left(\frac{1}{18}\right)\right] \cdot \frac{7}{5} = \frac{13}{18} + \frac{5}{18} \cdot \frac{7}{5} = \frac{13}{18} + \frac{7}{18} = \frac{10}{9}$
	a) $\frac{7}{5}$ b) $\frac{7}{18}$ c) $\frac{1}{3}$ d) $\frac{10}{9}$
4.	$\left(\sqrt{12}\sqrt{a^3}\right)^{16} : \left(\sqrt[3]{\sqrt{a^2}}\right)^9 = \left(\sqrt{a^{12}}\right)^{16} : \left(\sqrt[3]{a^{\frac{2}{4}}}\right)^9 = a^{\frac{3 \cdot 16}{2}} : a^{\frac{2 \cdot 9}{3}} = a^2 : a^{\frac{3}{2}} = a^{\frac{1}{2}} = \sqrt{a}$
	a) a b) \sqrt{a} c) a^2 d) $\sqrt[4]{a}$
5.	$\begin{aligned} x - 3y &= 4 \\ 3x + 2y &= 1 \\ \hline x - 3y + 3x + 2y &= 4 + 1 \\ 4x - y &= 5 \\ y &= 4x - 5 \\ 3x + 2 \cdot (4x - 5) &= 1 \\ 11x &= 11 \rightarrow x = 1 \\ y &= 4 \cdot 1 - 5 = -1 \\ x + y &= 1 - 1 = 0 \end{aligned}$
	a) -2 b) 2 c) 0 d) -1
6.	$2x^2 + 4x - 9 = 0 \rightarrow ax^2 + bx + c = 0$ <p>Vietova pravila $x_1 + x_2 = -\frac{b}{a} = -\frac{4}{2} = -2$</p>
	a) 2 b) $-\frac{7}{2}$ c) -2 d) $-\frac{9}{2}$
7.	$z = \frac{3+i}{2-i} = \frac{3+i}{2-i} \cdot \frac{2+i}{2+i} = \frac{6+3i+2i+i^2}{(2)^2 - (i)^2} = \frac{5+5i}{4+1} = \frac{5}{5} + i\frac{5}{5}$ $ z = \sqrt{(1)^2 + (1)^2} = \sqrt{2}$
	a) 1 b) 2 c) $\sqrt{2}$ d) $\sqrt{5}$

$$\frac{x-2}{2x-1} \geq 1$$

$$\frac{x-2}{2x-1} - 1 \geq 0$$

$$\frac{x-2-(2x-1)}{2x-1} \geq 0$$

$$\frac{-x-1}{2x-1} \geq 0$$

$$\frac{x+1}{2x-1} \leq 0$$

$$x = -1$$

$$2x - 1 = 0 \Rightarrow x = \frac{1}{2}$$

8.

$$-\infty \quad -1\frac{1}{2} \quad \infty$$

$x+1$	-	+	+
$2x-1$	-	-	+
$\frac{x+1}{2x-1}$	+	-	+

$$x \in \left[-1, \frac{1}{2}\right)$$

a) $[-2, -1)$

b) $\left[-1, \frac{1}{2}\right)$

c) $\left[\frac{1}{2}, 1\right)$

d) $[1, +\infty)$

9.

$$\cos 3x = \frac{\sqrt{2}}{2}$$

Za I kvadrant vrijedi: $3x = \frac{\pi}{4} \Rightarrow x = \frac{\pi}{12}$

a) $\frac{\pi}{12}$

b) $\frac{\pi}{4}$

c) $\frac{\pi}{2}$

d) $\frac{\pi}{6}$

10.

Dijagonala pravougaonika može se izračunati primjenom Pitagorine teoreme. Dijagonala je hipotenuza a stranice pravougaonika su katete pravouglog trougla, pa vrijedi:

$$d = \sqrt{a^2 + b^2} = \sqrt{4^2 + 3^2} = 5.$$

a) 7

b) 5

c) 6

d) 8

1.	Vrijednost izraza $\sqrt{\frac{25}{16} + \frac{5}{3} : \left(\frac{1}{3} - 2\right)}$ je:
	a) $\frac{5}{4}$ b) $\frac{1}{4}$ c) $\frac{3}{4}$ d) 1
2.	Ako je $a = \frac{\sqrt{3}-1}{3}$ i $b = \frac{\sqrt{3}+1}{3}$, onda je $a^2 + b^2$:
	a) $\frac{8}{9}$ b) $\frac{4\sqrt{3}}{9}$ c) $\frac{4}{9}$ d) $\frac{2}{3}$
3.	Vrijednost izraza $\frac{13}{18} - \left[\frac{1}{9} - \left(\frac{1}{6} - \frac{2}{3}\right)\right] \cdot \frac{7}{11}$ je:
	a) $\frac{7}{11}$ b) $-\frac{1}{3}$ c) $\frac{2}{3}$ d) $\frac{1}{3}$
4.	Vrijednost izraza $\left(\sqrt{\sqrt[6]{a^3}}\right)^8 : \left(\sqrt[3]{\sqrt[4]{a^9}}\right)^2$ je:
	a) \sqrt{a} b) a c) a^2 d) $\sqrt[6]{a}$
5.	Zbir rješenja sistema $7x + 3y = 4$ i $x - 2y = 3$ je:
	a) -2 b) 2 c) 3 d) 0
6.	Proizvod realnih rješenja jednačine $3x^2 - 7x - 6 = 0$ je:
	a) 3 b) -2 c) $\frac{7}{3}$ d) 2
7.	Modul kompleksnog broja $Z = \frac{3+i}{2+i}$ je:
	a) 2 b) 1 c) $\sqrt{2}$ d) $\sqrt{5}$
8.	Skup realnih rješenja nejednačine $\frac{x+2}{2x-1} \geq 1$ je:
	a) $\left(\frac{1}{2}, 3\right]$ b) $\left(-\frac{1}{2}, \frac{1}{2}\right]$ c) $\left(-3, -\frac{1}{2}\right]$ d) $(-\infty, -3]$
9.	Ako je $\cos 2x = \frac{\sqrt{2}}{2}$, odrediti x tako da $x \in \left[0, \frac{\pi}{2}\right]$:
	a) $\frac{\pi}{12}$ b) $\frac{\pi}{8}$ c) $\frac{\pi}{4}$ d) $\frac{\pi}{6}$
10.	Stranice pravouganika su 16 i 12. Koliko iznosi dijagonala pravougaonika?
	a) 26 b) 24 c) 18 d) 20

1.	$\sqrt{\frac{25}{16} + \frac{5}{3} \cdot \left(\frac{1}{3} - 2\right)} = \sqrt{\frac{25}{16} + \frac{5}{3} \cdot \frac{1-6}{3}} = \sqrt{\frac{25}{16} + \frac{5}{3} \cdot \frac{-5}{3}} = \sqrt{\frac{25}{16} - 1} = \sqrt{\frac{25-16}{16}} = \sqrt{\frac{9}{16}} = \frac{3}{4}.$
	a) $\frac{5}{4}$ b) $\frac{1}{4}$ c) $\frac{3}{4}$ d) 1
2.	$a^2 + b^2 = \left(\frac{\sqrt{3}-1}{3}\right)^2 + \left(\frac{\sqrt{3}+1}{3}\right)^2 = \frac{3-2\sqrt{3}+1}{9} + \frac{3+2\sqrt{3}+1}{9} = \frac{4-2\sqrt{3}+4+2\sqrt{3}}{9} = \frac{8}{9}.$
	a) $\frac{8}{9}$ b) $\frac{4\sqrt{3}}{9}$ c) $\frac{4}{9}$ d) $\frac{2}{3}$
3.	$\frac{13}{18} - \left[\frac{1}{9} - \left(\frac{1}{6} - \frac{2}{3}\right)\right] \cdot \frac{7}{11} = \frac{13}{18} - \left[\frac{1}{9} - \frac{1-4}{6}\right] \cdot \frac{7}{11} = \frac{13}{18} - \left(\frac{1}{9} - \frac{-3}{6}\right) \cdot \frac{7}{11} = \frac{13}{18} - \left(\frac{1}{9} + \frac{3}{6}\right) \cdot \frac{7}{11} =$ $= \frac{13}{18} - \left(\frac{1}{9} + \frac{3}{6}\right) \cdot \frac{7}{11} = \frac{13}{18} - \frac{2+9}{18} \cdot \frac{7}{11} = \frac{13}{18} - \frac{11}{18} \cdot \frac{7}{11} = \frac{13}{18} - \frac{7}{18} = \frac{6}{18} = \frac{1}{3}.$
	a) $\frac{7}{11}$ b) $-\frac{1}{3}$ c) $\frac{2}{3}$ d) $\frac{1}{3}$
4.	$\left(\sqrt[6]{a^3}\right)^8 : \left(\sqrt[3]{\sqrt[4]{a^9}}\right)^2 = \left(\sqrt[6]{a^3}\right)^8 : \left(\sqrt[3]{\sqrt[4]{a^9}}\right)^2 = \left[\left(\sqrt[6]{a^3}\right)^{\frac{1}{2}}\right]^8 : \left[\left(\sqrt[4]{a^9}\right)^{\frac{1}{3}}\right]^2 = \left(\sqrt[6]{a^3}\right)^4 : \left(\sqrt[4]{a^9}\right)^{\frac{2}{3}} =$ $= \left(a^{\frac{3}{6}}\right)^4 : \left(a^{\frac{9}{4}}\right)^{\frac{2}{3}} = a^{\frac{12}{6}} : a^{\frac{18}{12}} = a^2 : a^{\frac{3}{2}} = a^{2-\frac{3}{2}} = a^{\frac{1}{2}} = \sqrt{a}.$
	a) \sqrt{a} b) a c) a^2 d) $\sqrt[6]{a}$
5.	$7x + 3y = 4 \quad / \cdot 2$ $x - 2y = 3 \quad / \cdot 3$ $14x + 6y = 8$ $3x - 6y = 9$ $17x = 17 \Rightarrow x = 1$ $1 - 2y = 3 \Rightarrow -2y = 2 \quad y = -1$ $x + y = 0.$
	a) -2 b) 2 c) 3 d) 0
6.	$3x^2 - 7x - 6 = 0$ <i>Za rješenja kvadratne jednačine $ax^2 + bx + c = 0$ vrijedi da je njihov proizvod : $x_1 \cdot x_2 = \frac{c}{a}$.</i> $x_1 \cdot x_2 = \frac{-6}{3} = -2.$
	a) 3 b) -2 c) $\frac{7}{3}$ d) 2
7.	$ Z = \frac{ 3+i }{ 2+i } = \frac{ 3+i }{\sqrt{2^2+1^2}} = \frac{\sqrt{3^2+1^2}}{\sqrt{4+1}} = \frac{\sqrt{10}}{\sqrt{5}} = \sqrt{2}.$
	a) 2 b) 1 c) $\sqrt{2}$ d) $\sqrt{5}$

8.	$\frac{x+2}{2x-1} \geq 1$ $D.p.: 2x-1 \neq 0 \Rightarrow x \neq \frac{1}{2}$ $\frac{x+2}{2x-1} - 1 \geq 0$ $\frac{x+2-2x+1}{2x-1} \geq 0$ $\frac{-x+3}{2x-1} \geq 0 \quad / \cdot (-1)$ $\frac{x-3}{2x-1} \leq 0$ $x \in \left(\frac{1}{2}, 3\right]$												
	$-\infty \qquad \frac{1}{2} \qquad 3 \qquad +\infty$ <table border="1" data-bbox="683 264 1167 390"> <tbody> <tr> <td>$x-3$</td> <td>-</td> <td>-</td> <td>+</td> </tr> <tr> <td>$2x-1$</td> <td>-</td> <td>+</td> <td>+</td> </tr> <tr> <td>R</td> <td>+</td> <td>-</td> <td>+</td> </tr> </tbody> </table>	$x-3$	-	-	+	$2x-1$	-	+	+	R	+	-	+
$x-3$	-	-	+										
$2x-1$	-	+	+										
R	+	-	+										
	<p>a) $\left(\frac{1}{2}, 3\right]$ b) $\left(-\frac{1}{2}, \frac{1}{2}\right]$ c) $\left(-3, -\frac{1}{2}\right]$ d) $(-\infty, -3]$</p>												
9.	$\cos 2x = \frac{\sqrt{2}}{2}$ $2x_1 = \frac{\pi}{4} + 2k\pi \Rightarrow x_1 = \frac{\pi}{8} + k\pi$ $x_1 = \frac{\pi}{8} \in \left[0, \frac{\pi}{2}\right]$ $2x_2 = \frac{7\pi}{4} + 2k\pi \Rightarrow x_2 = \frac{7\pi}{8} + k\pi$ $x_2 = \frac{7\pi}{8} \notin \left[0, \frac{\pi}{2}\right]$ <p>Rješenje jednačine: $\frac{\pi}{8}$.</p>												
	<p>a) $\frac{\pi}{12}$ b) $\frac{\pi}{8}$ c) $\frac{\pi}{4}$ d) $\frac{\pi}{6}$</p>												
10.	<p>Dijagonala pravougaonika je:</p> $d = \sqrt{a^2 + b^2} = \sqrt{12^2 + 16^2} = \sqrt{144 + 256} = \sqrt{400} = 20.$ <p>a) 26 b) 24 c) 18 d) 20</p>												

1.	Ako je $a = \frac{\sqrt{3}+1}{3}$ i $b = \frac{\sqrt{3}-1}{3}$, onda je $a^2 + b^2$:
	a) $\frac{4}{9}$ b) $\frac{8}{9}$ c) $\frac{20}{9}$ d) $\frac{8}{3}$
2.	Vrijednost izraza $\sqrt{\frac{25}{16} - \frac{5}{3} : \left(2 - \frac{1}{3}\right)}$ je:
	a) $\frac{5}{12}$ b) $\frac{1}{4}$ c) $\frac{5}{4}$ d) $\frac{3}{4}$
3.	Vrijednost izraza $\frac{13}{18} + \left[\frac{1}{6} + \left(\frac{1}{9} - \frac{2}{3}\right)\right] \cdot \frac{4}{7}$ je:
	a) 1 b) $\frac{1}{7}$ c) $\frac{1}{2}$ d) $\frac{4}{7}$
4.	Vrijednost izraza $\left(\sqrt[6]{a^8}\right)^3 : \left(\sqrt[3]{\sqrt[4]{a^9}}\right)^2$ je:
	a) \sqrt{a} b) a c) a^2 d) $\sqrt[6]{a}$
5.	Zbir rješenja sistema $7x + 3y = 4$ i $2x - 3y = 5$ je:
	a) 2 b) 3 c) 0 d) -2
6.	Zbir realnih rješenja jednačine $3x^2 - 7x - 11 = 0$ je:
	a) 2 b) -3 c) $-\frac{11}{3}$ d) $\frac{7}{3}$
7.	Modul kompleksnog broja $Z = \frac{1-3i}{1+2i}$ je:
	a) $\sqrt{2}$ b) 2 c) $\sqrt{5}$ d) 1
8.	Skup realnih rješenja nejednačine $\frac{x-3}{2x-3} \geq 1$ je:
	a) $\left[-3, -\frac{3}{2}\right)$ b) $\left[0, \frac{3}{2}\right)$ c) $\left[\frac{3}{2}, 3\right)$ d) $[1, 2)$
9.	Ako je $\cos 2x = \frac{1}{2}$, odrediti x tako da $x \in \left[0, \frac{\pi}{2}\right]$:
	a) $\frac{\pi}{6}$ b) $\frac{\pi}{3}$ c) $\frac{\pi}{12}$ d) $\frac{\pi}{4}$
10.	Stranice pravouganika su 12 i 16. Koliko iznosi dijagonala pravougaonika?
	a) 28 b) 24 c) 18 d) 20

1.	$a^2 + b^2 = \left(\frac{\sqrt{3}+1}{3}\right)^2 + \left(\frac{\sqrt{3}-1}{3}\right)^2 = \frac{3+2\sqrt{3}+1}{9} + \frac{3-2\sqrt{3}+1}{9} = \frac{4+2\sqrt{3}+4-2\sqrt{3}}{9} = \frac{8}{9}.$
	a) $\frac{4}{9}$ b) $\frac{8}{9}$ c) $\frac{20}{9}$ d) $\frac{8}{3}$
2.	$\sqrt{\frac{25}{16} - \frac{5}{3}} : \left(2 - \frac{1}{3}\right) = \sqrt{\frac{25}{16} - \frac{5}{3}} : \frac{6-1}{3} = \sqrt{\frac{25}{16} - \frac{5}{3}} : \frac{5}{3} = \sqrt{\frac{25}{16} - 1} = \sqrt{\frac{25-16}{16}} = \sqrt{\frac{9}{16}} = \frac{3}{4}.$
	a) $\frac{5}{12}$ b) $\frac{1}{4}$ c) $\frac{5}{4}$ d) $\frac{3}{4}$
3.	$\frac{13}{18} + \left[\frac{1}{6} + \left(\frac{1}{9} - \frac{2}{3}\right)\right] \cdot \frac{4}{7} = \frac{13}{18} + \left[\frac{1}{6} + \frac{1-6}{9}\right] \cdot \frac{4}{7} = \frac{13}{18} + \left(\frac{1}{6} + \frac{-5}{9}\right) \cdot \frac{4}{7} = \frac{13}{18} + \left(\frac{1}{6} - \frac{5}{9}\right) \cdot \frac{4}{7} =$ $= \frac{13}{18} + \frac{3-10}{18} \cdot \frac{4}{7} = \frac{13}{18} - \frac{7}{18} \cdot \frac{4}{7} = \frac{13}{18} - \frac{4}{18} = \frac{9}{18} = \frac{1}{2}.$
	a) 1 b) $\frac{1}{7}$ c) $\frac{1}{2}$ d) $\frac{4}{7}$
4.	$\left(\sqrt[6]{a^8}\right)^3 : \left(\sqrt[3]{\sqrt[4]{a^9}}\right)^2 = \left[\left(\sqrt[6]{a^8}\right)^{\frac{1}{2}}\right]^3 : \left[\left(\sqrt[4]{a^9}\right)^{\frac{1}{3}}\right]^2 = \left(\sqrt[6]{a^8}\right)^{\frac{3}{2}} : \left(\sqrt[4]{a^9}\right)^{\frac{2}{3}} =$ $= \left(a^{\frac{8}{6}}\right)^{\frac{3}{2}} : \left(a^{\frac{9}{4}}\right)^{\frac{2}{3}} = a^{\frac{24}{12}} : a^{\frac{18}{12}} = a^2 : a^{\frac{3}{2}} = a^{2-\frac{3}{2}} = a^{\frac{1}{2}} = \sqrt{a}.$
	a) \sqrt{a} b) a c) a^2 d) $\sqrt[6]{a}$
5.	$7x + 3y = 4$ $2x - 3y = 5$ $9x = 9 \Rightarrow x = 1$ $2 - 3y = 5 \Rightarrow -3y = 3 \Rightarrow y = -1$ $x + y = 0.$
	a) 2 b) 3 c) 0 d) -2
6.	$3x^2 - 7x - 11 = 0$ <i>Za rješenja kvadratne jednačine $ax^2 + bx + c = 0$ vrijedi da je njihov zbir : $x_1 + x_2 = -\frac{b}{a}$.</i> $x_1 + x_2 = -\frac{-7}{3} = \frac{7}{3}.$
	a) 2 b) -3 c) $-\frac{11}{3}$ d) $\frac{7}{3}$
7.	$ Z = \frac{ 1-3i }{ 1+2i } = \frac{ 1-3i }{ 1+2i } = \frac{\sqrt{1^2 + (-3)^2}}{\sqrt{1^2 + (-2)^2}} = \frac{\sqrt{1+9}}{\sqrt{1+4}} = \frac{\sqrt{10}}{\sqrt{5}} = \sqrt{2}.$
	a) $\sqrt{2}$ b) 2 c) $\sqrt{5}$ d) 1

8.	$\frac{x-3}{2x-3} \geq 1$ <p><i>D.p.:</i> $2x-3 \neq 0 \Rightarrow x \neq \frac{1}{3}$</p> $\frac{x-3}{2x-3} - 1 \geq 0$ $\frac{x-3-2x+3}{2x-3} \geq 0$ $\frac{-x}{2x-3} \geq 0 \quad / \cdot (-1)$ $\frac{x}{2x-3} \leq 0$ $x \in \left(0, \frac{3}{2}\right]$	<table style="margin-left: auto; margin-right: auto;"> <tr> <td style="padding: 0 20px;">$-\infty$</td> <td style="padding: 0 20px;">0</td> <td style="padding: 0 20px;">$\frac{3}{2}$</td> <td style="padding: 0 20px;">$+\infty$</td> </tr> </table> <table border="1" style="margin-left: auto; margin-right: auto; text-align: center;"> <tr> <td>x</td> <td>-</td> <td>+</td> <td>+</td> </tr> <tr> <td>$2x-3$</td> <td>-</td> <td>-</td> <td>+</td> </tr> <tr> <td>R</td> <td>+</td> <td>-</td> <td>+</td> </tr> </table>	$-\infty$	0	$\frac{3}{2}$	$+\infty$	x	-	+	+	$2x-3$	-	-	+	R	+	-	+
$-\infty$	0	$\frac{3}{2}$	$+\infty$															
x	-	+	+															
$2x-3$	-	-	+															
R	+	-	+															
	a) $\left[-3, -\frac{3}{2}\right)$	b) $\left[0, \frac{3}{2}\right)$	c) $\left[\frac{3}{2}, 3\right)$	d) $[1, 2)$														
9.	$\cos 2x = \frac{1}{2}$ $2x_1 = \frac{\pi}{3} + 2k\pi \Rightarrow x_1 = \frac{\pi}{6} + k\pi$ $x_1 = \frac{\pi}{6} \in \left[0, \frac{\pi}{2}\right]$ $2x_2 = \frac{5\pi}{3} + 2k\pi \Rightarrow x_2 = \frac{5\pi}{6} + k\pi$ $x_2 = \frac{5\pi}{6} \notin \left[0, \frac{\pi}{2}\right]$ <p><i>Rješenje jednačine:</i> $\frac{\pi}{6}$.</p>																	
	a) $\frac{\pi}{6}$	b) $\frac{\pi}{3}$	c) $\frac{\pi}{12}$	d) $\frac{\pi}{4}$														
10.	<p><i>Dijagonala pravougaonika je:</i></p> $d = \sqrt{a^2 + b^2} = \sqrt{12^2 + 16^2} = \sqrt{144 + 256} = \sqrt{400} = 20.$																	
	a) 28	b) 24	c) 18	d) 20														

1.	Ako je $a = \frac{\sqrt{2} + \sqrt{3}}{2}$ i $b = \frac{\sqrt{2} - \sqrt{3}}{2}$, onda je $a^2 - b^2$:
	a) $\sqrt{6}$ b) $\frac{5}{2}$ c) $-\sqrt{6}$ d) 1
2.	Vrijednost izraza $\sqrt{\frac{3}{4} + \frac{4}{3} : \left(1 - \frac{1}{9}\right)}$ je:
	a) $\frac{5}{4}$ b) $\frac{3}{2}$ c) $\frac{2}{3}$ d) 1
3.	Vrijednost izraza $\frac{5}{12} + \left[\frac{1}{5} - \left(\frac{1}{9} + \frac{2}{3}\right)\right] \cdot \frac{5}{13}$ je:
	a) $\frac{23}{36}$ b) $\frac{7}{36}$ c) $\frac{1}{9}$ d) 1
4.	Vrijednost izraza $\left(\sqrt[6]{\sqrt[3]{a^3}}\right)^{12} : \left(\sqrt[6]{\sqrt{a^3}}\right)^{12}$ je:
	a) a^2 b) a c) $\frac{1}{a}$ d) 1
5.	Proizvod rješenja sistema $7x - 2y = 13$ i $2x + 3y = -7$ je:
	a) -1 b) 1 c) 3 d) -3
6.	Zbir realnih rješenja jednačine $2x^2 + 4x + 8 = 0$ je:
	a) 2 b) $\frac{\sqrt{3}}{2}$ c) -2 d) $\frac{17}{4}$
7.	Skup realnih rješenja nejednačine $\frac{2x-3}{3x+2} \leq 0$ je:
	a) $\left[\frac{1}{2}, \frac{2}{3}\right]$ b) $\left[-\frac{2}{3}, \frac{3}{2}\right]$ c) $\left(\frac{1}{2}, 1\right]$ d) $\left[-\frac{1}{2}, \frac{2}{3}\right)$
8.	Modul kompleksnog broja $Z = \frac{3+4i}{1-2i}$ je:
	a) $2\sqrt{5}$ b) $\sqrt{5}$ c) 5 d) 1
9.	Ako je $\sin x = \frac{\sqrt{2}}{2}$, odrediti x tako da $x \in \left[\frac{\pi}{2}, \pi\right]$:
	a) $\frac{\pi}{4}$ b) $\frac{2\pi}{3}$ c) $\frac{3\pi}{4}$ d) $\frac{4\pi}{5}$
10.	Dijagonala kvadrata je $d = 6\sqrt{2}$. Koliko iznosi površina kvadrata?
	a) 36 b) 9 c) 18 d) 12

1.	$a^2 - b^2 = \left(\frac{\sqrt{2} + \sqrt{3}}{2}\right)^2 - \left(\frac{\sqrt{2} - \sqrt{3}}{2}\right)^2 = \frac{2 + 2\sqrt{6} + 3}{4} - \frac{2 - 2\sqrt{6} + 3}{4} = \frac{5 + 2\sqrt{6} - 5 + 2\sqrt{6}}{4} = \frac{4\sqrt{6}}{4} = \sqrt{6}.$
	a) $\sqrt{6}$ b) $\frac{5}{2}$ c) $-\sqrt{6}$ d) 1
2.	$\sqrt{\frac{3}{4} + \frac{4}{3}} : \left(1 - \frac{1}{9}\right) = \sqrt{\frac{3}{4} + \frac{4}{3} \cdot \frac{9-1}{9}} = \sqrt{\frac{3}{4} + \frac{4}{3} \cdot \frac{8}{9}} = \sqrt{\frac{3}{4} + \frac{32}{27}} = \sqrt{\frac{27 + 128}{108}} = \sqrt{\frac{155}{108}} = \sqrt{\frac{155}{108}} = \frac{\sqrt{155}}{6\sqrt{3}}$
	a) $\frac{5}{4}$ b) $\frac{3}{2}$ c) $\frac{2}{3}$ d) 1
3.	$\frac{5}{12} + \left[\frac{1}{5} - \left(\frac{1}{9} + \frac{2}{3}\right)\right] \cdot \frac{5}{13} = \frac{5}{12} + \left[\frac{1}{5} - \frac{1+6}{9}\right] \cdot \frac{5}{13} = \frac{5}{12} + \left(\frac{1}{5} - \frac{7}{9}\right) \cdot \frac{5}{13} = \frac{5}{12} + \frac{9-35}{45} \cdot \frac{5}{13} =$ $= \frac{5}{12} - \frac{26}{45} \cdot \frac{5}{13} = \frac{5}{12} - \frac{2}{9} = \frac{15-8}{36} = \frac{7}{36}.$
	a) $\frac{23}{36}$ b) $\frac{7}{36}$ c) $\frac{1}{9}$ d) 1
4.	$\left(\sqrt[6]{\sqrt[3]{a^3}}\right)^{12} : \left(\sqrt[6]{\sqrt{a^2}}\right)^{12} = \left(\sqrt[6]{a}\right)^{12} : \left(\sqrt[6]{a}\right)^{12} = 1.$
	a) a^2 b) a c) $\frac{1}{a}$ d) 1
5.	$7x - 2y = 13 \quad / \cdot 3$ $2x + 3y = -7 \quad / \cdot 2$ $21x - 6y = 39$ $4x + 6y = -14$ $25x = 25 \Rightarrow x = 1$ $2 + 3y = -7 \Rightarrow 3y = -9 \quad y = -3$ $x \cdot y = -3$
	a) -1 b) 1 c) 3 d) -3
6.	$2x^2 + 4x + 8 = 0$ <i>Za rješenja kvadratne jednačine $ax^2 + bx + c = 0$ vrijedi da je njihov zbir: $x_1 + x_2 = -\frac{b}{a}$.</i> $x_1 + x_2 = -\frac{-4}{2} = -2.$
	a) 2 b) $\frac{\sqrt{3}}{2}$ c) -2 d) $\frac{17}{4}$

7.	$\frac{2x-3}{3x+2} \leq 0$ $D.p.: 3x+2 \neq 0 \Rightarrow x \neq -\frac{2}{3}$ $\frac{2x-3}{3x+2} \leq 0$ $x \in \left[-\frac{2}{3}, \frac{3}{2}\right].$	$-\infty \quad -\frac{2}{3} \quad \frac{3}{2} \quad +\infty$ <table border="1" data-bbox="773 205 1149 317"> <tr> <td>$2x-3$</td> <td>-</td> <td>-</td> <td>+</td> </tr> <tr> <td>$3x+2$</td> <td>-</td> <td>+</td> <td>+</td> </tr> <tr> <td>R</td> <td>+</td> <td>-</td> <td>+</td> </tr> </table>	$2x-3$	-	-	+	$3x+2$	-	+	+	R	+	-	+
$2x-3$	-	-	+											
$3x+2$	-	+	+											
R	+	-	+											
	a) $\left(\frac{1}{2}, \frac{2}{3}\right]$	b) $\left(-\frac{2}{3}, \frac{3}{2}\right]$	c) $\left(\frac{1}{2}, 1\right]$	d) $\left[-\frac{1}{2}, \frac{2}{3}\right)$										
8.	$ Z = \left \frac{3+4i}{1-2i} \right = \frac{ 3+4i }{ 1-2i } = \frac{\sqrt{(3)^2+(4)^2}}{\sqrt{1^2+(-2)^2}} = \frac{\sqrt{9+16}}{\sqrt{1+4}} = \frac{\sqrt{25}}{\sqrt{5}} = \frac{5}{\sqrt{5}} = \sqrt{5}.$													
	a) $2\sqrt{5}$	b) $\sqrt{5}$	c) 5	d) 1										
9.	$\sin x = \frac{\sqrt{2}}{2}$ $x_1 = \frac{\pi}{4} + 2k\pi \Rightarrow x_1 = \frac{\pi}{4} + 2k\pi$ $x_1 = \frac{\pi}{4} \notin \left[\frac{\pi}{2}, \pi\right]$ $x_2 = \frac{3\pi}{4} + 2k\pi \Rightarrow x_2 = \frac{2\pi}{3} + 2k\pi$ $x_2 = \frac{3\pi}{4} \in \left[\frac{\pi}{2}, \pi\right]$ <p>Rješenje jednačine: $\frac{3\pi}{4}$.</p>													
	a) $\frac{\pi}{4}$	b) $\frac{2\pi}{3}$	c) $\frac{3\pi}{4}$	d) $\frac{4\pi}{5}$										
10.	<p>Dijagonala d kvadrata stranice a je:</p> $d = a\sqrt{2} \Rightarrow a = 6.$ <p>Površina kvadrata je:</p> $P = a^2 = 36.$													
	a) 36	b) 9	c) 18	d) 12										

1.	$a^2 - b^2 = \left(\frac{\sqrt{2}+3}{2}\right)^2 - \left(\frac{\sqrt{2}-3}{2}\right)^2 = \frac{2+6\sqrt{2}+9}{4} - \frac{2-6\sqrt{2}+9}{4} = \frac{2+6\sqrt{2}-2+6\sqrt{2}}{4} = \frac{12\sqrt{2}}{4} = 3\sqrt{2}.$
	<p>a) $3\sqrt{2}$ b) $\frac{5}{2}$ c) $-\sqrt{5}$ d) 1</p>
2.	$\sqrt{\frac{3}{4} + \frac{4}{3} \cdot \left(1 - \frac{1}{3}\right)} = \sqrt{\frac{3}{4} + \frac{4}{3} \cdot \frac{2}{3}} = \sqrt{\frac{3}{4} + \frac{8}{9}} = \sqrt{\frac{3+8}{4}} = \sqrt{\frac{11}{4}} = \frac{\sqrt{11}}{2}.$
	<p>a) $\frac{\sqrt{3}}{2}$ b) $\frac{3}{2}$ c) $\frac{\sqrt{11}}{2}$ d) 1</p>
3.	$\frac{5}{4} + \left[\frac{1}{5} - \left(\frac{1}{9} + \frac{2}{3}\right)\right] \cdot \frac{5}{2} = \frac{5}{4} + \left[\frac{1}{5} - \frac{1+6}{9}\right] \cdot \frac{5}{2} = \frac{5}{4} + \left(\frac{1}{5} - \frac{7}{9}\right) \cdot \frac{5}{2} = \frac{5}{4} + \frac{9-35}{45} \cdot \frac{5}{2} = \frac{5}{4} - \frac{26}{45} \cdot \frac{5}{2} = \frac{5}{4} - \frac{13}{9} = \frac{45-52}{36} = -\frac{7}{36}.$
	<p>a) $\frac{13}{36}$ b) $-\frac{7}{36}$ c) $\frac{1}{9}$ d) 1</p>
4.	<p>Nakon uvrštavanja koordinata tačke (1,2) u jednačinu pravca, dobija se: $y = 5x - a \Rightarrow 2 = 5 - a \Rightarrow a = 3$</p>
	<p>a) -2 b) 3 c) $\frac{1}{2}$ d) 1</p>
5.	$\begin{aligned} 3x - 2y &= 9 \quad / \cdot 3 \\ 2x + 3y &= -7 \quad / \cdot 2 \\ \hline 9x - 6y &= 27 \\ 4x + 6y &= -14 \\ \hline 13x &= 13 \Rightarrow x = 1 \\ 2 + 3y &= -7 \Rightarrow 3y = -9 \quad y = -3 \\ x \cdot y &= -3 \end{aligned}$
	<p>a) -1 b) 1 c) 3 d) -3</p>
6.	$2x^2 - 8x + 8 = 0$ <p>Za rješenja kvadratne jednačine $ax^2 + bx + c = 0$ vrijedi da je njihov zbir: $x_1 + x_2 = -\frac{b}{a}$.</p> $x_1 + x_2 = -\frac{-8}{2} = 4.$
	<p>a) 4 b) $\frac{\sqrt{3}}{2}$ c) -2 d) $\frac{17}{4}$</p>

7.	$\frac{2x-3}{3x-2} \leq 0$ $D.p.: 3x-2 \neq 0 \Rightarrow x \neq \frac{2}{3}$ $\frac{2x-3}{3x-2} \leq 0$ $x \in \left(\frac{2}{3}, \frac{3}{2}\right]$	<table style="margin-left: auto; margin-right: auto;"> <tr> <td></td> <td style="text-align: center;">$-\infty$</td> <td style="text-align: center;">$\frac{2}{3}$</td> <td style="text-align: center;">$\frac{3}{2}$</td> <td style="text-align: center;">$+\infty$</td> </tr> <tr> <td style="border: 1px solid black;">$2x-3$</td> <td style="border: 1px solid black;">-</td> <td style="border: 1px solid black;">-</td> <td style="border: 1px solid black;">+</td> <td style="border: 1px solid black;"></td> </tr> <tr> <td style="border: 1px solid black;">$3x-2$</td> <td style="border: 1px solid black;">-</td> <td style="border: 1px solid black;">+</td> <td style="border: 1px solid black;">+</td> <td style="border: 1px solid black;"></td> </tr> <tr> <td style="border: 1px solid black;">R</td> <td style="border: 1px solid black;">+</td> <td style="border: 1px solid black;">-</td> <td style="border: 1px solid black;">+</td> <td style="border: 1px solid black;"></td> </tr> </table>		$-\infty$	$\frac{2}{3}$	$\frac{3}{2}$	$+\infty$	$2x-3$	-	-	+		$3x-2$	-	+	+		R	+	-	+	
	$-\infty$	$\frac{2}{3}$	$\frac{3}{2}$	$+\infty$																		
$2x-3$	-	-	+																			
$3x-2$	-	+	+																			
R	+	-	+																			
	a) $\left(\frac{1}{2}, \frac{2}{3}\right]$	b) $\left(\frac{2}{3}, \frac{3}{2}\right]$	c) $\left(\frac{1}{2}, 1\right]$	d) $\left[-\frac{1}{2}, \frac{2}{3}\right)$																		
8.	$ Z = 1+5i = \sqrt{(1)^2 + (5)^2} = \sqrt{1+25} = \sqrt{26}$																					
	a) $2\sqrt{5}$	b) $\sqrt{26}$	c) 2	d) 1																		
9.	$\sin x = \frac{\sqrt{2}}{2}$ $x_1 = \frac{\pi}{4} + 2k\pi \Rightarrow x_1 = \frac{\pi}{4} + 2k\pi$ $x_1 = \frac{\pi}{4} \in \left[0, \frac{\pi}{2}\right]$ <p>Rješenje jednačine: $\frac{\pi}{4}$.</p>																					
	a) $\frac{\pi}{4}$	b) $\frac{2\pi}{3}$	c) $\frac{3\pi}{4}$	d) $\frac{4\pi}{5}$																		
10.	<p>Dijagonala d kvadrata stranice a je:</p> $d = a\sqrt{2} \Rightarrow a = 3.$ <p>Površina kvadrata je:</p> $P = a^2 = 9.$																					
	a) 4	b) 9	c) 6	d) 12																		

1.	Vrijednost izraza $\sqrt{\frac{25}{16} - \frac{5}{3}} : \left(2 - \frac{1}{3}\right)$ je:
	a) $\frac{5}{3}$ b) $\frac{5}{4}$ c) $\frac{5}{2}$ d) 1
2.	Ako je $a = \frac{\sqrt{2}-1}{2}$ i $b = \frac{\sqrt{2}+1}{2}$, onda je $a^2 + b^2$:
	a) $\sqrt{2}$ b) $\frac{3}{4}$ c) $\frac{3}{2}$ d) $2\sqrt{2}$
3.	Vrijednost izraza $\frac{13}{18} - \left[\frac{1}{9} - \left(\frac{1}{6} - \frac{2}{3}\right)\right] \cdot \frac{7}{11}$ je:
	a) $\frac{1}{3}$ b) $\frac{2}{3}$ c) $\frac{1}{6}$ d) 1
4.	Vrijednost izraza $\left(\sqrt{\sqrt[6]{a^3}}\right)^8 : \left(\sqrt[6]{\sqrt[3]{a^9}}\right)^2$ je:
	a) a^2 b) \sqrt{a} c) a d) a^3
5.	Zbir rješenja sistema $5x - 2y = 1$ i $4x - y = 2$ je:
	a) -3 b) 3 c) 2 d) 1
6.	Proizvod realnih rješenja jednačine $x^2 - 6x + 5 = 0$ je:
	a) 5 b) $\frac{5}{6}$ c) 6 d) $-\frac{5}{6}$
7.	Modul kompleksnog broja $Z = \frac{1+3i}{2+i}$ je:
	a) 1 b) $\sqrt{10}$ c) $\sqrt{2}$ d) $2\sqrt{2}$
8.	Skup realnih rješenja nejednačine $\frac{x-3}{2x-3} \geq 1$ je:
	a) $\left[-\frac{3}{2}, 0\right)$ b) $\left[-3, -\frac{3}{2}\right)$ c) $\left[\frac{3}{2}, 3\right)$ d) $\left[0, \frac{3}{2}\right)$
9.	Koliko iznosi $\sin x$ ako je $\cos x = \frac{\sqrt{3}}{2}$ i $x \in \left[0, \frac{\pi}{2}\right]$?
	a) $\frac{\sqrt{3}}{2}$ b) $\frac{1}{2}$ c) $\frac{\sqrt{2}}{2}$ d) 1
10.	Koliko iznosi površina pravougaonika stranice $a=3$ i dijagonale $d=5$?
	a) 12 b) 8 c) 16 d) 24

1.	$\sqrt{\frac{25}{16} - \frac{5}{3} \cdot \left(2 - \frac{1}{3}\right)} = \sqrt{\frac{25}{16} - \frac{5}{3} \cdot \frac{6-1}{3}} = \sqrt{\frac{25}{16} - \frac{5}{3} \cdot \frac{5}{3}} = \sqrt{\frac{25}{16} - 1} = \sqrt{\frac{25-16}{16}} = \sqrt{\frac{9}{16}} = \frac{3}{4}$
	a) $\frac{5}{3}$ b) $\frac{5}{4}$ c) $\frac{5}{2}$ d) $\frac{3}{4}$
2.	$a^2 + b^2 = \left(\frac{\sqrt{2}-1}{2}\right)^2 + \left(\frac{\sqrt{2}+1}{2}\right)^2 = \frac{2-2\sqrt{2}+1}{4} + \frac{2+2\sqrt{2}+1}{4} = \frac{6}{4} = \frac{3}{2}$
	a) $\sqrt{2}$ b) $\frac{3}{4}$ c) $\frac{3}{2}$ d) $2\sqrt{2}$
3.	$\frac{13}{18} - \left[\frac{1}{9} - \left(\frac{1}{6} - \frac{2}{3} \right) \right] \cdot \frac{7}{11} = \frac{13}{18} - \left(\frac{1}{9} - \frac{1-4}{6} \right) \cdot \frac{7}{11} = \frac{13}{18} - \left(\frac{1}{9} + \frac{3}{6} \right) \cdot \frac{7}{11} =$ $\frac{13}{18} - \frac{2+9}{18} \cdot \frac{7}{11} = \frac{13}{18} - \frac{7}{18} = \frac{6}{18} = \frac{1}{3}$
	a) $\frac{1}{3}$ b) $\frac{2}{3}$ c) $\frac{1}{6}$ d) 1
4.	$\left(\sqrt[6]{a^3}\right)^8 : \left(\sqrt[6]{a^9}\right)^2 = (a^{3 \cdot 8})^{\frac{1}{6 \cdot 2}} : (a^{9 \cdot 2})^{\frac{1}{6 \cdot 3}} = a^2 : a = a$
	a) a^2 b) \sqrt{a} c) a d) a^3
5.	$\begin{aligned} 5x - 2y &= 1 \\ 4x - y &= 2 \quad / \cdot (-2) \\ 5x - 2y &= 1 \\ -8x + 2y &= -4 \\ -3x &= -3 \\ x &= 1 \\ 5 \cdot 1 - 2y &= 1 \\ -2y &= 1 - 5 \\ -2y &= -4 \\ y &= 2 \\ x + y &= 1 + 2 = 3 \end{aligned}$
	a) -3 b) 3 c) 2 d) 1
6.	$x^2 - 6x + 5 = 0$ <i>Za kvadratnu jednačinu $ax^2 + bx + c = 0$ po Viettovim pravi lim a proizvod rješenja :</i> $x_1 \cdot x_2 = \frac{c}{a} \Rightarrow x_1 \cdot x_2 = \frac{5}{1} = 5$
	a) 5 b) $\frac{5}{6}$ c) 6 d) $-\frac{5}{6}$
7.	$ Z = \left \frac{1+3i}{2+i} \right = \frac{\sqrt{1^2+3^2}}{\sqrt{2^2+1^2}} = \frac{\sqrt{10}}{\sqrt{5}} = \sqrt{2}$
	a) 1 b) $\sqrt{10}$ c) $\sqrt{2}$ d) $2\sqrt{2}$

8.	$\frac{x-3}{2x-3} \geq 1; DP: 2x-3 \neq 0 \Rightarrow x \neq \frac{3}{2}$ $\frac{x-3}{2x-3} - 1 \geq 0$ $\frac{x-3-2x+3}{2x-3} \geq 0$ $\frac{-x}{2x-3} \geq 0$ $\frac{x}{2x-3} \leq 0$ $x \in \left[0, \frac{3}{2}\right)$	<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th style="text-align: center;">$-\infty$</th> <th style="text-align: center;">0</th> <th style="text-align: center;">$\frac{3}{2}$</th> <th style="text-align: center;">$+\infty$</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">x</td> <td style="text-align: center;">-</td> <td style="text-align: center;">+</td> <td style="text-align: center;">+</td> <td style="text-align: center;">+</td> </tr> <tr> <td style="text-align: center;">$2x-3$</td> <td style="text-align: center;">-</td> <td style="text-align: center;">-</td> <td style="text-align: center;">+</td> <td style="text-align: center;">+</td> </tr> <tr> <td></td> <td style="text-align: center;">+</td> <td style="text-align: center;">-</td> <td style="text-align: center;">+</td> <td style="text-align: center;">+</td> </tr> </tbody> </table>		$-\infty$	0	$\frac{3}{2}$	$+\infty$	x	-	+	+	+	$2x-3$	-	-	+	+		+	-	+	+
	$-\infty$	0	$\frac{3}{2}$	$+\infty$																		
x	-	+	+	+																		
$2x-3$	-	-	+	+																		
	+	-	+	+																		
	a) $\left[-\frac{3}{2}, 0\right)$	b) $\left[-3, -\frac{3}{2}\right)$	c) $\left[\frac{3}{2}, 3\right)$	d) $\left[0, \frac{3}{2}\right)$																		
9.	$\sin^2 x + \cos^2 x = 1$ $\sin x = \pm \sqrt{1 - \cos^2 x} = \pm \sqrt{1 - \left(\frac{\sqrt{3}}{2}\right)^2} = \pm \sqrt{1 - \frac{3}{4}} = \pm \sqrt{\frac{1}{4}} = \pm \frac{1}{2} \text{ i } x \in \left[0, \frac{\pi}{2}\right]?$ <p><i>U I kvadrantu $\sin x \geq 0$, te slijedi :</i></p> $\sin x = \frac{1}{2}$																					
	a) $\frac{\sqrt{3}}{2}$	b) $\frac{1}{2}$	c) $\frac{\sqrt{2}}{2}$	d) 1																		
10.	$a^2 + b^2 = d^2$ $b = \sqrt{d^2 - a^2} = 4$ $P = a \cdot b = 12$																					
	a) 12	b) 8	c) 16	d) 24																		

1.	$\sqrt{\frac{9}{16} + \frac{11}{3} : \left(3 + \frac{2}{3}\right)} = \sqrt{\frac{9}{16} + \frac{11}{3} : \frac{9+2}{3}} = \sqrt{\frac{9}{16} + \frac{11}{3} : \frac{11}{3}} = \sqrt{\frac{9}{16} + 1} = \sqrt{\frac{9+16}{16}} = \sqrt{\frac{25}{16}} = \frac{5}{4}$
	a) 1 b) $\frac{3}{4}$ c) 2 d) $\frac{5}{4}$
2.	$a^2 + b^2 = \left(\frac{\sqrt{3} - \sqrt{2}}{2}\right)^2 + \left(\frac{\sqrt{3} + \sqrt{2}}{2}\right)^2 = \frac{3 - 2\sqrt{6} + 2}{4} + \frac{3 + 2\sqrt{6} + 2}{4} = \frac{10}{4} = \frac{5}{2}$
	a) $\frac{5}{2}$ b) $\sqrt{6}$ c) $2\sqrt{6}$ d) $-2\sqrt{6}$
3.	$\frac{11}{18} + \left[\frac{1}{3} + \left(\frac{1}{9} - \frac{1}{6}\right)\right] \cdot \frac{7}{5} = \frac{11}{18} + \left[\frac{1}{3} + \frac{2-3}{18}\right] \cdot \frac{7}{5} = \frac{11}{18} + \left[\frac{1}{3} - \frac{1}{18}\right] \cdot \frac{7}{5} = \frac{11}{18} + \frac{6-1}{18} \cdot \frac{7}{5} =$ $= \frac{11}{18} + \frac{5}{18} \cdot \frac{7}{5} = \frac{11}{18} + \frac{7}{18} = 1$
	a) $\frac{1}{2}$ b) 1 c) $\frac{17}{18}$ d) $\frac{1}{3}$
4.	$\left(\sqrt[3]{a^4}\right)^3 : \left(\sqrt[4]{a^3}\right)^4 = \left(a^{\frac{4}{3}}\right)^3 : \left(a^{\frac{3}{4}}\right)^4 = a^4 : a^3 = a$
	a) \sqrt{a} b) $\sqrt[4]{a^3}$ c) a d) $\sqrt[3]{a^2}$
5.	$\begin{aligned} 2x + y &= 1 \quad / \cdot 2 \\ \underline{x - 2y} &= 3 \\ 4x + 2y &= 2 \\ \underline{x - 2y} &= 3 \\ 5x &= 5 \\ x &= 1 \\ 2 \cdot 1 + y &= 1 \\ y &= 1 - 2 \\ y &= -1 \\ x + y &= 1 - 1 = 0 \end{aligned}$
	a) 0 b) -1 c) 2 d) 1
6.	$2x^2 + 3x - 2 = 0$ <i>Vieta - ova pravila za kvadratnu jednačinu $ax^2 + bx + c = 0$</i> $x_1 \cdot x_2 = \frac{c}{a} = \frac{-2}{2} = -1$
	a) 1 b) $-\frac{3}{2}$ c) $\frac{3}{2}$ d) -1
7.	$x^2 - 3x < -2$
	a) (-2, -1) b) (1, 2) c) (-1, 1) d) (2, +∞)
8.	$Z = 3 + i$ $ Z = 3 + i = \sqrt{3^2 + 1^2} = \sqrt{10}$

	a) $\sqrt{10}$	b) $\sqrt{5}$	c) $\sqrt{2}$	d) 1
9.	$\sin x = \frac{1}{2} \Rightarrow x = \arcsin \frac{1}{2} = \frac{\pi}{6}$			
	a) $\frac{\pi}{4}$	b) $\frac{\pi}{2}$	c) $\frac{\pi}{6}$	d) $\frac{\pi}{3}$
10.	$a = 4 \wedge c = 5$ $b = \sqrt{c^2 - a^2} = 3$			
	a) 2	b) 3	c) 1	d) 4

	a) $\left(\frac{1}{2}, \frac{2}{3}\right]$	b) $\left(\frac{2}{3}, \frac{3}{2}\right]$	c) $\left(\frac{1}{2}, 1\right]$	d) $\left[-\frac{1}{2}, \frac{2}{3}\right)$
8.	$ Z = 2 - 3i = \sqrt{(2)^2 + (-3)^2} = \sqrt{4 + 9} = \sqrt{13}.$			
	a) $2\sqrt{3}$	b) $\sqrt{13}$	c) 2	d) 1
9.	$\sin x = \frac{\sqrt{3}}{2}$ $x_1 = \frac{\pi}{3} + 2k\pi \Rightarrow x_1 = \frac{\pi}{3} + 2k\pi$ $x_1 = \frac{\pi}{3} \in \left[0, \frac{\pi}{2}\right]$ <p>Rješenje jednačine: $\frac{\pi}{3}.$</p>			
	a) $\frac{\pi}{3}$	b) $\frac{\pi}{4}$	c) $\frac{5\pi}{6}$	d) $\frac{2\pi}{3}$
10.	Dijagonal kvadrata stranice a je: $d = a\sqrt{2} \rightarrow a = 3.$ Površina kvadrata je: $P = a^2 = 9.$			
	a) 4	b) 9	c) 6	d) 2

1.	$(a-b)^2 = \left(\frac{\sqrt{3}+2}{2} - \frac{\sqrt{3}-2}{2}\right)^2 = \left(\frac{\sqrt{3}+2-\sqrt{3}+2}{2}\right)^2 = \left(\frac{4}{2}\right)^2 = 2^2 = 4.$																
	a) 4 b) $2\sqrt{3}$ c) $\frac{1}{2}$ d) 1																
2.	$\sqrt{\frac{2}{3} + \frac{1}{5} \cdot \left(1 - \frac{2}{5}\right)} = \sqrt{\frac{2}{3} + \frac{1}{5} \cdot \frac{5-2}{5}} = \sqrt{\frac{2}{3} + \frac{1}{5} \cdot \frac{3}{5}} = \sqrt{\frac{2}{3} + \frac{1}{3}} = \sqrt{\frac{2+1}{3}} = 1$																
	a) $\frac{\sqrt{3}}{2}$ b) $\frac{2}{5}$ c) $\frac{1}{3}$ d) 1																
3.	$\frac{3}{4} + \left[\frac{1}{5} - \left(\frac{1}{3} + \frac{2}{9}\right)\right] \cdot \frac{5}{4} = \frac{3}{4} + \left[\frac{1}{5} - \left(\frac{3+2}{9}\right)\right] \cdot \frac{5}{4} = \frac{3}{4} + \left[\frac{1}{5} - \frac{5}{9}\right] \cdot \frac{5}{4} = \frac{3}{4} + \frac{9-25}{45} \cdot \frac{5}{4}$ $\frac{3}{4} - \frac{16}{45} \cdot \frac{5}{4} = \frac{3}{4} - \frac{4}{9} = \frac{27-16}{36} = \frac{11}{36}$																
	a) $\frac{11}{18}$ b) $\frac{11}{36}$ c) $-\frac{16}{9}$ d) 1																
4.	Nakon uvrštavanja koordinata tačke (1,3) u jednačinu pravca, dobija se: $3 = 2 \cdot 1 - a \Rightarrow a = 2 - 3 \Rightarrow a = -1.$																
	a) 1 b) 2 c) -1 d) $\frac{1}{3}$																
5.	$3x - 2y = 4$ $2x + y = 5 \quad / \cdot 2$ $3x - 2y = 4$ $4x + 2y = 10$ $7x = 14 \Rightarrow x = 2$ $4 + y - 5 \rightarrow y - 1$ $x \cdot y = 2$																
	a) 2 b) 1 c) 3 d) -1																
6.	$2x^2 - 3x + 5 = 0$ Za rješenja kvadratne jednačine $ax^2 + bx + c = 0$ vrijedi da je njihov zbir: $x_1 + x_2 = -\frac{b}{a}$. Prema tome, imamo: $x_1 + x_2 = \frac{3}{2}$.																
	a) 2 b) $\frac{\sqrt{3}}{2}$ c) 4 d) $\frac{3}{2}$																
7.	$\frac{x-3}{2x-1} \leq 0$ D.p. $2x-1 \neq 0 \Rightarrow x \neq \frac{1}{2}$																
	$\frac{x-3}{2x-1} \leq 0$ $x \in \left(\frac{1}{2}, 3\right]$																
	<table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr> <td style="padding: 0 10px;">$-\infty$</td> <td style="padding: 0 10px;">$\frac{1}{2}$</td> <td style="padding: 0 10px;">3</td> <td style="padding: 0 10px;">$+\infty$</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px;">$x-3$</td> <td style="border: 1px solid black; padding: 2px;">-</td> <td style="border: 1px solid black; padding: 2px;">-</td> <td style="border: 1px solid black; padding: 2px;">+</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px;">$2x-1$</td> <td style="border: 1px solid black; padding: 2px;">-</td> <td style="border: 1px solid black; padding: 2px;">+</td> <td style="border: 1px solid black; padding: 2px;">+</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px;">R</td> <td style="border: 1px solid black; padding: 2px;">+</td> <td style="border: 1px solid black; padding: 2px;">-</td> <td style="border: 1px solid black; padding: 2px;">+</td> </tr> </table>	$-\infty$	$\frac{1}{2}$	3	$+\infty$	$x-3$	-	-	+	$2x-1$	-	+	+	R	+	-	+
$-\infty$	$\frac{1}{2}$	3	$+\infty$														
$x-3$	-	-	+														
$2x-1$	-	+	+														
R	+	-	+														
	a) $\left(\frac{1}{2}, \frac{2}{3}\right]$ b) $\left(\frac{1}{2}, 3\right]$ c) $\left(\frac{1}{2}, 1\right]$ d) $\left[-\frac{3}{2}, 2\right)$																
8.	$ z = \sqrt{(-5)^2 + (-5)^2} = \sqrt{50} = 5\sqrt{2}.$																
	a) $5\sqrt{2}$ b) 1 c) 5 d) $\sqrt{10}$																

1.	Ako je $a = \frac{\sqrt{2}+1}{2}$ i $b = \frac{\sqrt{2}-1}{2}$, onda je $a^2 - b^2$:
	a) $\sqrt{2}$ b) $-2\sqrt{2}$ c) $\frac{1}{2}$ d) 1
2.	Vrijednost izraza $\sqrt{\frac{1}{3} - \frac{2}{5}} : \left(1 + \frac{3}{5}\right)$ je:
	a) $\frac{1}{2}$ b) $\frac{2}{5}$ c) $\frac{1}{3}$ d) $\frac{1}{\sqrt{12}}$
3.	Vrijednost izraza $\frac{1}{2} + \left[\frac{3}{4} - \left(1 - \frac{1}{3}\right)\right] \cdot \frac{3}{2}$ je:
	a) $\frac{2}{3}$ b) $\frac{5}{8}$ c) $-\frac{2}{9}$ d) 1
4.	Koji od pravaca prolazi kroz ishodište koordinatnog sistema?
	a) $\frac{x}{3} - \frac{y}{2} = 1$ b) $x + y = 1$ c) $x + 2y = 0$ d) $y = -\frac{1}{2}x + \frac{1}{2}$
5.	Proizvod rješenja sistema $2x + y = 3$ i $x - 3y = 5$ je:
	a) -2 b) 1 c) 3 d) -1
6.	Zbir rješenja jednačine $x^2 - 3x + 2 = 0$ je:
	a) $\frac{1}{3}$ b) $\frac{\sqrt{2}}{3}$ c) -1 d) 3
7.	Skup rješenja nejednačine $\frac{x+1}{2x+3} \leq 0$ je:
	a) $\left(\frac{1}{2}, \frac{2}{3}\right]$ b) $\left(-\frac{3}{2}, -1\right]$ c) $\left(\frac{2}{3}, 1\right]$ d) $\left[-\frac{3}{2}, 1\right)$
8.	Modul kompleksnog broja $Z = 3 - 4i$ je:
	a) $5\sqrt{2}$ b) 1 c) 5 d) $\sqrt{10}$
9.	Ako je $\sin x = \frac{1}{2}$, odrediti x tako da $x \in \left[0, \frac{\pi}{2}\right]$.
	a) $\frac{\pi}{4}$ b) $\frac{\pi}{6}$ c) $\frac{\pi}{3}$ d) $\frac{2\pi}{3}$
10.	Površina kvadrata je $P = 9$. Koliko iznosi dužina stranice kvadrata?
	a) 3 b) $\sqrt{3}$ c) $3\sqrt{2}$ d) 4

1.	$a^2 - b^2 = \left(\frac{\sqrt{2}+1}{2} - \frac{\sqrt{2}-1}{2}\right) \cdot \left(\frac{\sqrt{2}+1}{2} + \frac{\sqrt{2}-1}{2}\right) = \left(\frac{\sqrt{2}+1 - \sqrt{2}+1}{2}\right) \cdot \left(\frac{\sqrt{2}+1 + \sqrt{2}-1}{2}\right)$ $= 1 \cdot \frac{2\sqrt{2}}{2} = \sqrt{2}$																				
	a) $\sqrt{2}$ b) $-2\sqrt{2}$ c) $\frac{1}{2}$ d) 1																				
2.	$\sqrt{\frac{1}{3} - \frac{2}{5}} : \left(1 + \frac{3}{5}\right) = \sqrt{\frac{1}{3} - \frac{2}{5}} : \frac{5+3}{5} = \sqrt{\frac{1}{3} - \frac{2}{5}} : \frac{8}{5} = \sqrt{\frac{1}{3} - \frac{2}{5}} \cdot \frac{5}{8} = \sqrt{\frac{1}{3} - \frac{1}{4}} = \sqrt{\frac{4-3}{12}} = \frac{1}{\sqrt{12}}$																				
	a) $\frac{1}{2}$ b) $\frac{2}{5}$ c) $\frac{1}{3}$ d) $\frac{1}{\sqrt{12}}$																				
3.	$\frac{1}{2} + \left[\frac{3}{4} - \left(1 - \frac{1}{3}\right)\right] \cdot \frac{3}{2} = \frac{1}{2} + \left[\frac{3}{4} - \frac{2}{3}\right] \cdot \frac{3}{2} = \frac{1}{2} + \frac{9-8}{12} \cdot \frac{3}{2} = \frac{1}{2} + \frac{1}{12} \cdot \frac{3}{2} = \frac{1}{2} + \frac{1}{8} = \frac{4+1}{8} = \frac{5}{8}$																				
	a) $\frac{2}{3}$ b) $\frac{5}{8}$ c) $-\frac{2}{y}$ d) 1																				
4.	Uvrštavanjem vrijednosti koordinata ishodišta koordinatnog sistema (0,0) u svaku od navedenih jednačina pravca, zaključujemo da kroz ishodište prolazi pravac $x + 2y = 0$.																				
	a) $\frac{x}{3} - \frac{y}{2} - 1$ b) $x + y = 1$ c) $x + 2y = 0$ d) $y = -\frac{1}{2}x + \frac{1}{2}$																				
5.	$2x + y = 3 \quad / \cdot 3$ $\underline{x - 3y = 5}$ $6x + 3y = 9$ $\underline{x - 3y = 5}$ $7x = 14 \Rightarrow x = 2$ $4 + y - 3 \rightarrow y = -1$ $x \cdot y = -2$																				
	a) -2 b) 1 c) 3 d) -1																				
6.	$x^2 - 3x + 2 = 0$ <p>Za rješenja kvadratne jednačine $ax^2 + bx + c = 0$ vrijedi da je njihov zbir: $x_1 + x_2 = -\frac{b}{a}$.</p> <p>Prema tome, imamo: $x_1 + x_2 = 3$.</p>																				
	a) $\frac{1}{3}$ b) $\frac{\sqrt{2}}{3}$ c) -1 d) 3																				
7.	$\frac{x+1}{2x+3} \leq 0$ <p>D.p. $2x+3 \neq 0 \Rightarrow x \neq -\frac{3}{2}$</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td></td> <td style="text-align: center;">$-\infty$</td> <td style="text-align: center;">$-\frac{3}{2}$</td> <td style="text-align: center;">-1</td> <td style="text-align: center;">$+\infty$</td> </tr> <tr> <td style="border: 1px solid black;">$x+1$</td> <td style="border: 1px solid black;">-</td> <td style="border: 1px solid black;">-</td> <td style="border: 1px solid black;">+</td> <td style="border: 1px solid black;">+</td> </tr> <tr> <td style="border: 1px solid black;">$2x+3$</td> <td style="border: 1px solid black;">-</td> <td style="border: 1px solid black;">+</td> <td style="border: 1px solid black;">+</td> <td style="border: 1px solid black;">+</td> </tr> <tr> <td style="border: 1px solid black;">R</td> <td style="border: 1px solid black;">+</td> <td style="border: 1px solid black;">-</td> <td style="border: 1px solid black;">+</td> <td style="border: 1px solid black;">+</td> </tr> </table> $x \in \left(-\frac{3}{2}, -1\right]$		$-\infty$	$-\frac{3}{2}$	-1	$+\infty$	$x+1$	-	-	+	+	$2x+3$	-	+	+	+	R	+	-	+	+
	$-\infty$	$-\frac{3}{2}$	-1	$+\infty$																	
$x+1$	-	-	+	+																	
$2x+3$	-	+	+	+																	
R	+	-	+	+																	
	a) $\left(\frac{1}{2}, \frac{2}{3}\right]$ b) $\left(-\frac{3}{2}, -1\right]$ c) $\left(\frac{2}{3}, 1\right]$ d) $\left[-\frac{3}{2}, 1\right)$																				
8.	$ Z - \sqrt{(3)^2 + (-4)^2} - \sqrt{9+16} - \sqrt{25} - 5.$																				
	a) $5\sqrt{2}$ b) 1 c) 5 d) $\sqrt{10}$																				

1.	Ako je $a = \frac{\sqrt{3}+1}{2}$ i $b = \frac{\sqrt{3}-1}{2}$, onda je $a^2 - b^2$:
	a) $\sqrt{3}$ b) $-2\sqrt{3}$ c) $\frac{1}{2}$ d) 1
2.	Vrijednost izraza $\sqrt{\frac{1}{2} - \frac{1}{5}} : \left(1 - \frac{1}{3}\right)$ je:
	a) $\frac{1}{2}$ b) $\frac{1}{5}$ c) $\frac{2}{3}$ d) $\frac{1}{\sqrt{5}}$
3.	Vrijednost izraza $\frac{1}{3} + \left[\frac{3}{4} - \left(1 - \frac{1}{2}\right)\right] \cdot \frac{2}{3}$ je:
	a) $\frac{1}{3}$ b) $\frac{1}{2}$ c) $-\frac{2}{3}$ d) 1
4.	Koji od pravaca prolazi kroz ishodište koordinatnog sistema?
	a) $\frac{x}{3} - \frac{y}{2} = 1$ b) $x + y = 1$ c) $x - 2y = 0$ d) $y = -\frac{1}{2}x + \frac{1}{2}$
5.	Proizvod rješenja sistema $7x + 4y = 12$ i $5x - 2y = 11$ je:
	a) -1 b) $\frac{4}{5}$ c) 3 d) 1
6.	Proizvod rješenja jednačine $x^2 - 2x + 3 = 0$ je:
	a) $\frac{1}{3}$ b) $\frac{2}{3}$ c) 1 d) 3
7.	Skup rješenja nejednačine $\frac{2x+1}{x-3} \leq 0$ je:
	a) $\left(\frac{1}{2}, 3\right]$ b) $\left[-\frac{1}{2}, 3\right)$ c) $\left(\frac{2}{3}, 1\right]$ d) $\left[-3, \frac{1}{2}\right)$
8.	Modul kompleksnog broja $Z = -3 + 4i$ je:
	a) $2\sqrt{5}$ b) 1 c) 5 d) $\sqrt{5}$
9.	Ako je $\sin x = \frac{\sqrt{3}}{2}$, odrediti x tako da $x \in \left[0, \frac{\pi}{2}\right]$.
	a) $\frac{\pi}{6}$ b) $\frac{\pi}{3}$ c) $\frac{\pi}{4}$ d) $\frac{2\pi}{3}$
10.	Obim kvadrata je 0 - 12. Koliko iznosi površina tog kvadrata?
	a) 9 b) 6 c) $3\sqrt{2}$ d) 8

1.	Ako je $a = \frac{\sqrt{2+3}}{2}$ i $b = \frac{\sqrt{2-3}}{2}$, onda je $a^2 - b^2$:
	a) $3\sqrt{2}$ b) $-2\sqrt{2}$ c) $\frac{1}{2}$ d) 1
2.	Vrijednost izraza $\sqrt{\frac{1}{3} - \frac{1}{5}} : \left(1 - \frac{1}{4}\right)$ je:
	a) $\frac{3}{4}$ b) $\frac{1}{5}$ c) $\frac{2}{3}$ d) $\frac{1}{\sqrt{15}}$
3.	Vrijednost izraza $\frac{1}{3} + \left[\frac{3}{2} - \left(1 - \frac{1}{2}\right)\right] \cdot \frac{2}{3}$ je:
	a) $\frac{1}{3}$ b) 1 c) $-\frac{2}{3}$ d) -1
4.	Koji od pravaca prolazi kroz ishodište koordinatnog sistema?
	a) $\frac{x}{3} - \frac{y}{2} = 1$ b) $x + y = -1$ c) $2x - 3y = 0$ d) $y = -\frac{1}{3}x + \frac{1}{2}$
5.	Proizvod rješenja sistema $5x + 4y = 12$ i $3x - 2y = 16$ je:
	a) -8 b) 5 c) $-\frac{3}{2}$ d) 1
6.	Zbir rješenja jednačine $x^2 - 3x + 2 = 0$ je:
	a) $\frac{1}{3}$ b) -2 c) 1 d) 3
7.	Skup rješenja nejednačine $\frac{2x-3}{x+2} \leq 0$ je:
	a) $\left(\frac{1}{2}, 3\right]$ b) $\left(2, \frac{3}{2}\right]$ c) $\left(\frac{2}{3}, 2\right]$ d) $\left[3, \frac{1}{2}\right)$
8.	Modul kompleksnog broja $Z = 3 - i$ je:
	a) $\sqrt{3}$ b) 1 c) $\sqrt{10}$ d) $2\sqrt{5}$
9.	Ako je $\cos x = \frac{\sqrt{2}}{2}$, odrediti x tako da $x \in \left[0, \frac{\pi}{2}\right]$.
	a) $\frac{\pi}{6}$ b) $\frac{\pi}{4}$ c) $\frac{\pi}{2}$ d) $\frac{2\pi}{3}$
10.	Dužina stranice kvadrata je $a = 3$. Koliko iznosi obim tog kvadrata?
	a) 12 b) 6 c) $3\sqrt{2}$ d) 9

1.	$a^2 - b^2 = \left(\frac{\sqrt{2+3}}{2} - \frac{\sqrt{2-3}}{2}\right) \cdot \left(\frac{\sqrt{2+3}}{2} + \frac{\sqrt{2-3}}{2}\right)$ $= \left(\frac{\sqrt{2+3} - \sqrt{2-3}}{2}\right) \cdot \left(\frac{\sqrt{2+3} + \sqrt{2-3}}{2}\right) = 3 \cdot \frac{2\sqrt{2}}{2} = 3\sqrt{2}$															
	a) $3\sqrt{2}$ b) $-2\sqrt{2}$ c) $\frac{1}{2}$ d) 1															
2.	$\sqrt{\frac{1}{3} - \frac{1}{5} : \left(1 - \frac{1}{4}\right)} = \sqrt{\frac{1}{3} - \frac{1}{5} : \frac{4-1}{4}} = \sqrt{\frac{1}{3} - \frac{1}{5} : \frac{3}{4}} = \sqrt{\frac{1}{3} - \frac{1}{5} \cdot \frac{4}{3}} = \sqrt{\frac{1}{3} - \frac{4}{15}} = \sqrt{\frac{5-4}{15}}$ $= \sqrt{\frac{1}{15}} = \frac{1}{\sqrt{15}}$															
	a) $\frac{3}{4}$ b) $\frac{1}{5}$ c) $\frac{2}{3}$ d) $\frac{1}{\sqrt{15}}$															
3.	$\frac{1}{3} + \left[\frac{3}{2} - \left(1 - \frac{1}{2}\right)\right] \cdot \frac{2}{3} = \frac{1}{3} + \left[\frac{3}{2} - \frac{1}{2}\right] \cdot \frac{2}{3} = \frac{1}{3} + \frac{3-1}{2} \cdot \frac{2}{3} = \frac{1}{3} + 1 \cdot \frac{2}{3} = \frac{1}{3} + \frac{2}{3} = \frac{2+1}{3} = \frac{3}{3} = 1$															
	a) $\frac{1}{3}$ b) 1 c) $-\frac{2}{3}$ d) -1															
4.	Uvrštavanjem vrijednosti koordinata ishodišta koordinatnog sistema (0,0) u svaku od navedenih jednačina pravca, zaključujemo da kroz ishodište prolazi pravac $2x - 3y = 0$.															
	a) $\frac{x}{3} - \frac{y}{2} = 1$ b) $x + y = -1$ c) $2x - 3y = 0$ d) $y = -\frac{1}{3}x + \frac{1}{2}$															
5.	$5x + 4y = 12$ $3x - 2y = 16 / \cdot 2$ $5x + 4y = 12$ $6x - 4y = 32$ $11x = 44 \Rightarrow x = 4$ $12 - 2y = 16 \Rightarrow y = -2$ $x \cdot y = -8$															
	a) -8 b) 5 c) $-\frac{3}{2}$ d) 1															
6.	$x^2 - 3x + 2 = 0$ <p>Za rješenja kvadratne jednačine $ax^2 + bx + c = 0$ vrijedi da je njihov proizvod: $x_1 + x_2 = -\frac{b}{a}$.</p> <p>Prema tome, imamo: $x_1 \mid x_2 = 3$.</p>															
	a) $\frac{1}{3}$ b) -2 c) 1 d) 3															
7.	$\frac{2x-3}{x+2} < 0$ <p style="text-align: center;">$-\infty \quad -2 \quad \frac{3}{2} \quad +\infty$</p> <p>D.p. $x+2 \neq 0 \Rightarrow x \neq -2$</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tbody> <tr> <td>2x</td> <td>3</td> <td>-</td> <td>-</td> <td>+</td> </tr> <tr> <td>x+2</td> <td></td> <td>-</td> <td>+</td> <td>+</td> </tr> <tr> <td>R</td> <td></td> <td>+</td> <td>-</td> <td>+</td> </tr> </tbody> </table> $\frac{2x-3}{x+2} \leq 0$ $x \in \left(-2, \frac{3}{2}\right]$	2x	3	-	-	+	x+2		-	+	+	R		+	-	+
2x	3	-	-	+												
x+2		-	+	+												
R		+	-	+												

	a) $\left(\frac{1}{2}, 3\right]$	b) $\left(-2, \frac{3}{2}\right]$	c) $\left(-\frac{2}{3}, 2\right]$	d) $\left[-3, \frac{1}{2}\right)$
8.	$ Z = \sqrt{(3)^2 + (-1)^2} = \sqrt{9+1} = \sqrt{10}.$			
	a) $\sqrt{3}$	b) 1	c) $\sqrt{10}$	d) $2\sqrt{5}$
9.	$\cos x = \frac{\sqrt{2}}{2}$ $x_1 = \frac{\pi}{4} + 2k\pi \Rightarrow x_1 = \frac{\pi}{4} + 2k\pi$ $x_1 = \frac{\pi}{4} \in \left[0, \frac{\pi}{2}\right]$ <p>Rješenje jednačine je: $\frac{\pi}{4}.$</p>			
	a) $\frac{\pi}{6}$	b) $\frac{\pi}{4}$	c) $\frac{\pi}{2}$	d) $\frac{2\pi}{3}$
10.	<p>Obim O kvadrata stranice računa se po izrazu: $O = 4 \cdot a.$</p> <p>Dakle, u našem slučaju imamo da je $O = 4 \cdot 3 \Rightarrow O = 12.$</p>			
	a) 12	b) 6	c) $3\sqrt{2}$	d) 9

1.	Ako je $a = \frac{\sqrt{2}+1}{2}$ i $b = \frac{\sqrt{2}-1}{2}$, onda je $a^2 - b^2$:
	a) $\sqrt{2}$ b) $-2\sqrt{2}$ c) $\frac{1}{2}$ d) 1
2.	Vrijednost izraza $\sqrt{\frac{1}{2} - \frac{1}{4} : \left(1 - \frac{1}{4}\right)}$ je:
	a) $\frac{3}{4}$ b) $\frac{5}{6}$ c) $\frac{1}{3}$ d) $\frac{1}{\sqrt{6}}$
3.	Vrijednost izraza $\frac{1}{3} + \left[\frac{3}{2} - \left(1 - \frac{1}{2}\right)\right] \cdot \frac{2}{3}$ je:
	a) $\frac{1}{3}$ b) 1 c) $-\frac{2}{3}$ d) -1
4.	Koji od pravaca prolazi kroz ishodište koordinatnog sistema?
	a) $\frac{x}{3} - \frac{y}{2} = -1$ b) $x + y - 1$ c) $x - 3y - 0$ d) $y - -\frac{1}{2}x + \frac{1}{3}$
5.	Odrediti rješenje jednačine $\frac{5}{4} = 3 - \frac{x-2}{x+1}$
	a) -5 b) 3 c) $\frac{2}{5}$ d) 1
6.	Proizvod rješenja jednačine $x^2 - 2x + 3 = 0$ je:
	a) $\frac{2}{3}$ b) -2 c) 1 d) 3
7.	Koliki je poluprečnik kruga čiji obim iznosi 6π :
	a) 2π b) 3 c) 6 d) π
8.	Modul kompleksnog broja $Z = 3 + 4i$ je:
	a) $\sqrt{10}$ b) 1 c) 5 d) $2\sqrt{5}$
9.	Ako je $\sin x = \frac{1}{2}$, odrediti x tako da $x \in \left[0, \frac{\pi}{2}\right]$.
	a) $\frac{\pi}{4}$ b) $\frac{\pi}{6}$ c) $\frac{\pi}{2}$ d) $\frac{2\pi}{3}$
10.	Dužina stranice kvadrata je $a = 3$. Koliko iznosi površina tog kvadrata?
	a) 9 b) 12 c) $3\sqrt{2}$ d) 9

1.	$a^2 - b^2 = \left(\frac{\sqrt{2}+1}{2} - \frac{\sqrt{2}-1}{2}\right) \cdot \left(\frac{\sqrt{2}+1}{2} + \frac{\sqrt{2}-1}{2}\right)$ $= \left(\frac{\sqrt{2}+1-\sqrt{2}+1}{2}\right) \cdot \left(\frac{\sqrt{2}+1+\sqrt{2}-1}{2}\right) = 1 \cdot \frac{2\sqrt{2}}{2} = \sqrt{2}$
	a) $\sqrt{2}$ b) $-2\sqrt{2}$ c) $\frac{1}{2}$ d) 1
2.	$\sqrt{\frac{1}{2} - \frac{1}{4}} : \left(1 - \frac{1}{4}\right) = \sqrt{\frac{1}{2} - \frac{1}{4}} : \frac{4-1}{4} = \sqrt{\frac{1}{2} - \frac{1}{4}} : \frac{3}{4} = \sqrt{\frac{1}{2} - \frac{1}{4}} \cdot \frac{4}{3} = \sqrt{\frac{1}{2} - \frac{1}{3}} = \sqrt{\frac{3-2}{6}} = \sqrt{\frac{1}{6}}$ $- \frac{1}{\sqrt{6}}$
	a) $\frac{3}{4}$ b) $\frac{5}{6}$ c) $\frac{1}{3}$ d) $\frac{1}{\sqrt{6}}$
3.	$\frac{1}{3} \mid \begin{bmatrix} 3 & 1 \\ 2 & 2 \end{bmatrix} \cdot \frac{2}{3} = \frac{1}{3} \mid \begin{bmatrix} 3 & 1 \\ 2 & 2 \end{bmatrix} \cdot \frac{2}{3} = \frac{1}{3} \mid \begin{matrix} 3-1 & 2 \\ 2 & 3 \end{matrix} = \frac{1}{3} \mid \begin{matrix} 2 & 1 \\ 2 & 3 \end{matrix} = \frac{1}{3} \mid \begin{matrix} 2 & 1 & 2+1 & 3 \\ 3 & 3 & 3 & 3 \end{matrix}$ -1
	a) $\frac{1}{3}$ b) 1 c) $-\frac{2}{3}$ d) -1
4.	Uvrštavanjem vrijednosti koordinata ishodišta koordinatnog sistema (0,0) u svaku od navedenih jednačina pravca, zaključujemo da kroz ishodište prolazi pravac $x - 3y = 0$.
	a) $\frac{x}{3} - \frac{y}{2} = -1$ b) $x + y = 1$ c) $x - 3y = 0$ d) $y = -\frac{1}{2}x + \frac{1}{3}$
5.	<p>Da bismo se riješili razlomaka, pomožit ćemo i lijevu i desnu stranu jednačine sa $4(x+1)$.</p> $\frac{5}{4} = 3 - \frac{x-2}{x+1} \quad / \cdot 4(x+1)$ $5(x+1) = 12(x+1) - 4(x-2)$ $5x + 5 = 12x + 12 - 4x + 8$ $5x + 5 = 8x + 20$ $5x - 8x - 20 - 5$ $-3x = 15 \rightarrow x = -5.$
	a) -5 b) 3 c) $\frac{2}{5}$ d) 1
6.	$x^2 - 2x + 3 = 0$ <p>Za rješenja kvadratne jednačine $ax^2 + bx + c = 0$ vrijedi da je njihov proizvod: $x_1 \cdot x_2 = \frac{c}{a}$.</p> <p>Prema tome, imamo: $x_1 \cdot x_2 = 3$.</p>
	a) $\frac{2}{3}$ b) -2 c) 1 d) 3
7.	<p>Obim kruga se računa po formuli $O = 2r\pi$, gdje r predstavlja poluprečnik kruga.</p> <p>Dakle, u našem slučaju:</p> $6\pi = 2r\pi \Rightarrow r = 3.$
	a) 2π b) 3 c) 6 d) π

8.	$ Z = \sqrt{(3)^2 + (4)^2} = \sqrt{9 + 16} = \sqrt{25} = 5.$			
	a) $\sqrt{10}$	b) 1	c) 5	d) $2\sqrt{5}$
9.	$\sin x = \frac{1}{2}$ $x_1 = \frac{\pi}{6} + 2k\pi \Rightarrow x_1 = \frac{\pi}{6} + 2k\pi$ $x_1 = \frac{\pi}{6} \in \left[0, \frac{\pi}{2}\right]$ <p>Rješenje jednačine je: $\frac{\pi}{4}$.</p>			
	a) $\frac{\pi}{4}$	b) $\frac{\pi}{6}$	c) $\frac{\pi}{2}$	d) $\frac{2\pi}{3}$
10.	Površina P kvadrata stranice a računa se po izrazu: $P = a^2.$ Dakle, u našem slučaju imamo da je $P = 3^2 \Rightarrow P = 9.$			
	a) 9	b) 12	c) $3\sqrt{2}$	d) 9

1.	Ako je $a = \frac{\sqrt{2}+1}{2}$ i $b = \frac{\sqrt{2}-1}{2}$, onda je $a^2 - b^2$:
	a) $\sqrt{2}$ b) $-2\sqrt{2}$ c) $\frac{1}{2}$ d) 1
2.	Vrijednost izraza $\sqrt{\frac{1}{2} - \frac{1}{4} : \left(1 - \frac{1}{4}\right)}$ je:
	a) $\frac{3}{4}$ b) $\frac{5}{6}$ c) $\frac{1}{3}$ d) $\frac{1}{\sqrt{6}}$
3.	Vrijednost izraza $\frac{3}{4} + \left[\frac{5}{2} - \left(1 + \frac{1}{4}\right)\right] \cdot \frac{1}{5}$ je:
	a) $\frac{2}{3}$ b) 1 c) $\frac{5}{4}$ d) -1
4.	Pravac $y = ax - 2$ prolazi kroz tačku $(2, -4)$. Odrediti koeficijent smjera pravca a .
	a) 1 b) -2 c) 2 d) -1
5.	Odrediti rješenje jednačine $\frac{3}{4} = 2 - \frac{x+2}{x-1}$
	a) 13 b) 3 c) $\frac{2}{3}$ d) 1
6.	Zbir rješenja kvadratne jednačine $x^2 - 2x + 3 = 0$ je:
	a) $\frac{2}{3}$ b) -3 c) 1 d) 2
7.	Koliki je poluprečnik kruga čija površina iznosi 9π :
	a) 2π b) 3 c) 9 d) π
8.	Modul kompleksnog broja $Z = 4 - 3i$ je:
	a) $\sqrt{10}$ b) 1 c) 5 d) $2\sqrt{5}$
9.	Ako je $\sin x = \frac{\sqrt{3}}{2}$, odrediti x tako da $x \in \left[0, \frac{\pi}{2}\right]$.
	a) $\frac{\pi}{4}$ b) $\frac{\pi}{6}$ c) $\frac{\pi}{3}$ d) $\frac{2\pi}{3}$
10.	Dužina stranice kvadrata je $a = 3$. Koliko iznosi obim tog kvadrata?
	a) 9 b) 12 c) $3\sqrt{2}$ d) 9

1.	$a^2 - b^2 = \left(\frac{\sqrt{2}+1}{2} - \frac{\sqrt{2}-1}{2}\right) \cdot \left(\frac{\sqrt{2}+1}{2} + \frac{\sqrt{2}-1}{2}\right)$ $= \left(\frac{\sqrt{2}+1-\sqrt{2}+1}{2}\right) \cdot \left(\frac{\sqrt{2}+1+\sqrt{2}-1}{2}\right) = 1 \cdot \frac{2\sqrt{2}}{2} = \sqrt{2}$
	a) $\sqrt{2}$ b) $-2\sqrt{2}$ c) $\frac{1}{2}$ d) 1
2.	$\sqrt{\frac{1}{2} - \frac{1}{4}} : \left(1 - \frac{1}{4}\right) = \sqrt{\frac{1}{2} - \frac{1}{4}} : \frac{4-1}{4} = \sqrt{\frac{1}{2} - \frac{1}{4}} : \frac{3}{4} = \sqrt{\frac{1}{2} - \frac{1}{4}} \cdot \frac{4}{3} = \sqrt{\frac{1}{2} - \frac{1}{3}} = \sqrt{\frac{3-2}{6}} = \sqrt{\frac{1}{6}}$ $- \frac{1}{\sqrt{6}}$
	a) $\frac{3}{4}$ b) $\frac{5}{6}$ c) $\frac{1}{3}$ d) $\frac{1}{\sqrt{6}}$
3.	$\frac{3}{4} \mid \left[\begin{array}{c c} 5 & 1 \\ 2 & 4 \end{array} \right] \cdot \frac{1}{5} = \frac{3}{4} \mid \left[\begin{array}{c c} 5 & 5 \\ 2 & 4 \end{array} \right] \cdot \frac{1}{5} = \frac{3}{4} \mid \begin{array}{c} 10-5 \\ 4 \end{array} \cdot \frac{1}{5} = \frac{3}{4} \mid \begin{array}{c} 5 \\ 4 \end{array} \cdot \frac{1}{5} = \frac{3}{4} \mid \begin{array}{c} 1 \\ 4 \end{array} \cdot \frac{1}{4} = \frac{3+1}{4} = 1$
	a) $\frac{2}{3}$ b) 1 c) $\frac{5}{4}$ d) -1
4.	<p>Ako pravac $y = ax - 2$ prolazi kroz tačku $(2, -4)$, onda vrijedi: $-4 = a \cdot 2 - 2$.</p> <p>Iz ove jednačine dobijamo: $2a = -4 + 2 \Rightarrow 2a = -2 \Rightarrow a = -1$.</p> <p>Dakle, traženi koeficijent smjera pravca je $a = -1$.</p>
	a) 1 b) -2 c) 2 d) -1
5.	<p>Da bismo se riješili razlomaka, pomožit ćemo i lijevu i desnu stranu jednačine sa $4(x - 1)$.</p> $\frac{3}{4} = 2 - \frac{x+2}{x-1} \quad / \cdot 4(x-1)$ $3(x-1) = 8(x-1) - 4(x+2)$ $3x - 3 = 8x - 8 - 4x - 8$ $3x - 3 = 4x - 16$ $3x - 4x = -16 + 3$ $-x = -13 \Rightarrow x = 13.$
	a) 13 b) 3 c) $\frac{2}{3}$ d) 1
6.	<p>$x^2 - 2x + 3 = 0$</p> <p>Za rješenja kvadratne jednačine $ax^2 + bx + c = 0$ vrijedi da je njihov zbir: $x_1 + x_2 = -\frac{b}{a}$.</p> <p>Prema tome, imamo: $x_1 + x_2 = -\frac{-2}{1} = 2$.</p>
	a) $\frac{2}{3}$ b) -3 c) 1 d) 2
7.	<p>Površina kruga se računa po formuli $P = r^2\pi$, gdje r predstavlja poluprečnik kruga.</p> <p>Dakle, u našem slučaju:</p>

1.	Vrijednost izraza $\left[\frac{2}{3} - \frac{4}{5}\left(2 - \frac{1}{2}\right)\right] : \left[-\frac{4}{3} + \frac{8}{9}\left(2 + \frac{2}{5}\right)\right]$ je:
	a) $\frac{2}{3}$ b) $-\frac{3}{2}$ c) $\frac{3}{2}$ d) $-\frac{2}{3}$
2.	Vrijednost izraza $\sqrt{\frac{3}{16} : \left(8 + \frac{1}{3}\right) + \frac{1}{25}}$
	a) 2 b) $\frac{1}{4}$ c) $\frac{1}{2}$ d) 1
3.	Zbir rješenja sistema $2x - 3y = 7$ i $3x + 2y = 4$ je:
	a) -1 b) 1 c) 2 d) -2
4.	Proizvod realnih rješenja jednačine $3x^2 - 7x - 6 = 0$ je:
	a) 3 b) -2 c) $\frac{7}{3}$ d) 2
5.	Vrijednost izraza $\left(\sqrt{\sqrt[6]{a^3}}\right)^8 : \left(\sqrt[3]{\sqrt[4]{a^9}}\right)^2$ je:
	a) \sqrt{a} b) a c) a^2 d) $\sqrt[6]{a}$
6.	Ako je $a = \frac{\sqrt{3}+1}{3}$ i $b = \frac{\sqrt{3}-1}{3}$, onda je $a^2 + b^2$:
	a) $\frac{4}{9}$ b) $\frac{8}{9}$ c) $\frac{20}{9}$ d) $\frac{8}{3}$
7.	Ako je $\cos 2x = \frac{1}{2}$, odrediti x tako da $x \in \left[0, \frac{\pi}{2}\right]$:
	a) $\frac{\pi}{6}$ b) $\frac{\pi}{3}$ c) $\frac{\pi}{12}$ d) $\frac{\pi}{4}$
8.	Modul kompleksnog broja $Z = \frac{-3+i}{2-i}$ je:
	a) $\sqrt{2}$ b) $\sqrt{10}$ c) 2 d) 5
9.	Skup realnih rješenja nejednačine $\frac{3x+1}{4x+1} \geq 1$ je:
	a) $(0, 2]$ b) $(0, +\infty)$ c) $\left(-\frac{1}{4}, 0\right]$ d) $\left[-2, -\frac{1}{4}\right)$
10.	Vrijednosti hipotenuze i jedne katete pravouglog trougla su 5 i 3. Koliko iznosi površina trougla?
	a) 6 b) 4 c) 12 d) 15

1.	$\left[\frac{2}{3} - \frac{4}{5}\left(2 - \frac{1}{2}\right)\right] : \left[-\frac{4}{3} + \frac{8}{9}\left(2 + \frac{2}{5}\right)\right] = \left(\frac{2}{3} - \frac{4}{5} \cdot \frac{4-1}{2}\right) : \left(-\frac{4}{3} + \frac{8}{9} \cdot \frac{12}{5}\right) =$ $\left(\frac{2}{3} - \frac{6}{5}\right) : \left(-\frac{4}{3} + \frac{32}{15}\right) = \frac{10-18}{15} : \frac{-20+32}{15} = \frac{-8}{15} \cdot \frac{15}{-12} = \frac{2}{3}$
	<p>a) $\frac{2}{3}$ b) $-\frac{3}{2}$ c) $\frac{3}{2}$ d) $-\frac{2}{3}$</p>
2.	$\sqrt{\frac{3}{16} : \left(8 + \frac{1}{3}\right) + \frac{1}{25}} = \sqrt{\frac{3}{16} : \frac{24+1}{3} + \frac{1}{25}} = \sqrt{\frac{3}{16} \cdot \frac{3}{25} + \frac{1}{25}} = \sqrt{\frac{9}{400} + \frac{1}{25}} = \sqrt{\frac{9+16}{400}} = \sqrt{\frac{25}{400}}$ $= \frac{5}{20} = \frac{1}{4}$
	<p>a) 2 b) $\frac{1}{4}$ c) $\frac{1}{2}$ d) 1</p>
3.	$2x - 3y = 7$ $3x + 2y = 4$ $\underline{2x - 3y + 3x + 2y = 7 + 4}$ $5x - y = 11$ $\underline{y = 5x - 11}$ $3x + 2 \cdot (5x - 11) = 4$ $\underline{13x = 26} \rightarrow x = 2$ $y = 5 \cdot 2 - 11 = -1$ $x + y = 2 - 1 = 1$
	<p>a) -1 b) 1 c) 2 d) -2</p>
4.	$3x^2 - 7x - 6 = 0$ <p>Za rješenja kvadratne jednačine $ax^2 + bx + c = 0$ vrijedi da je njihov proizvod : $x_1 \cdot x_2 = \frac{c}{a}$.</p> $x_1 \cdot x_2 = \frac{-6}{3} = -2.$
	<p>a) 3 b) -2 c) $\frac{7}{3}$ d) 2</p>
5.	$\left(\sqrt[6]{a^3}\right)^8 : \left(\sqrt[3]{\sqrt[4]{a^9}}\right)^2 = \left(\sqrt[6]{a^3}\right)^8 : \left(\sqrt[3]{\sqrt[4]{a^9}}\right)^2 = \left[\left(\sqrt[6]{a^3}\right)^{\frac{1}{2}}\right]^8 : \left[\left(\sqrt[4]{a^9}\right)^{\frac{1}{3}}\right]^2 = \left(\sqrt[6]{a^3}\right)^4 : \left(\sqrt[4]{a^9}\right)^{\frac{2}{3}} =$ $= \left(a^{\frac{3}{6}}\right)^4 : \left(a^{\frac{9}{4}}\right)^{\frac{2}{3}} = a^{\frac{12}{6}} : a^{\frac{18}{12}} = a^2 : a^{\frac{3}{2}} = a^{2-\frac{3}{2}} = a^{\frac{1}{2}} = \sqrt{a}.$
	<p>a) \sqrt{a} b) a c) a^2 d) $\sqrt[6]{a}$</p>
6.	$a^2 + b^2 = \left(\frac{\sqrt{3}+1}{3}\right)^2 + \left(\frac{\sqrt{3}-1}{3}\right)^2 = \frac{3+2\sqrt{3}+1}{9} + \frac{3-2\sqrt{3}+1}{9} = \frac{4+2\sqrt{3}+4-2\sqrt{3}}{9} = \frac{8}{9}.$
	<p>a) $\frac{4}{9}$ b) $\frac{8}{9}$ c) $\frac{20}{9}$ d) $\frac{8}{3}$</p>

1.	Vrijednost izraza $\left(\sqrt[6]{\sqrt[3]{a^3}}\right)^{12} : \left(\sqrt[6]{\sqrt{a^3}}\right)^{12}$ je:
	a) a^2 b) a c) $\frac{1}{a}$ d) 1
2.	Vrijednost izraza $\sqrt{\frac{3}{4} + \frac{4}{3}} : \left(1 - \frac{1}{9}\right)$ je:
	a) $\frac{5}{4}$ b) $\frac{3}{2}$ c) $\frac{2}{3}$ d) 1
3.	Koliko iznosi parametar a ako pravac $y = 5x - a$ prolazi kroz tačku (1,2)?
	a) -2 b) 3 c) $\frac{1}{2}$ d) 1
4.	Ako je $a = \frac{\sqrt{2}-1}{2}$ i $b = \frac{\sqrt{2}+1}{2}$, onda je $a^2 + b^2$:
	a) $\sqrt{2}$ b) $\frac{3}{4}$ c) $\frac{3}{2}$ d) $2\sqrt{2}$
5.	Zbir rješenja sistema $2x + y = 1$ i $x - 2y = 3$ je:
	a) 0 b) -1 c) 2 d) 1
6.	Zbir realnih rješenja jednačine $x^2 - 3x + 2 = 0$ je:
	a) 2 b) -3 c) -2 d) 3
7.	Skup rješenja nejednačine $\frac{2x-3}{3x-2} \leq 0$ je:
	a) $\left[\frac{1}{2}, \frac{2}{3}\right]$ b) $\left(\frac{2}{3}, \frac{3}{2}\right]$ c) $\left(\frac{1}{2}, 1\right]$ d) $\left[-\frac{1}{2}, \frac{2}{3}\right)$
8.	Modul kompleksnog broja $Z = -5 - 5i$ je:
	a) $5\sqrt{2}$ b) 1 c) 5 d) $\sqrt{10}$
9.	Ako je $\sin x = \frac{1}{2}$, odrediti x tako da $x \in \left[0, \frac{\pi}{2}\right]$.
	a) $\frac{\pi}{4}$ b) $\frac{\pi}{6}$ c) $\frac{\pi}{3}$ d) $\frac{2\pi}{3}$
10.	Stranice pravouganika su 6 i 8. Koliko iznosi dijagonala pravougaonika?
	a) 14 b) 10 c) 7 d) 2

1.	$\left(\sqrt[6]{\sqrt[3]{a^3}}\right)^{12} : \left(\sqrt[6]{\sqrt{a^2}}\right)^{12} = \left(\sqrt[6]{a}\right)^{12} : \left(\sqrt[6]{a}\right)^{12} = 1.$
	a) a^2 b) a c) $\frac{1}{a}$ d) 1
2.	$\sqrt{\frac{3}{4} + \frac{4}{3} : \left(1 - \frac{1}{9}\right)} = \sqrt{\frac{3}{4} + \frac{4}{3} : \frac{9-1}{9}} = \sqrt{\frac{3}{4} + \frac{4}{3} : \frac{8}{9}} = \sqrt{\frac{3}{4} + \frac{4}{3} \cdot \frac{9}{8}} = \sqrt{\frac{3}{4} + \frac{3}{2}} = \sqrt{\frac{3+6}{4}} = \sqrt{\frac{9}{4}} = \frac{3}{2}.$
	a) $\frac{5}{4}$ b) $\frac{3}{2}$ c) $\frac{2}{3}$ d) 1
3.	Nakon uvrštavanja koordinata tačke (1,2) u jednačinu pravca, dobija se: $y = 5x - a \Rightarrow 2 = 5 - a \Rightarrow a = 3$
	a) -2 b) 3 c) $\frac{1}{2}$ d) 1
4.	$a^2 + b^2 = \left(\frac{\sqrt{2}-1}{2}\right)^2 + \left(\frac{\sqrt{2}+1}{2}\right)^2 = \frac{2-2\sqrt{2}+1}{4} + \frac{2+2\sqrt{2}+1}{4} = \frac{6}{4} = \frac{3}{2}$
	a) $\sqrt{2}$ b) $\frac{3}{4}$ c) $\frac{3}{2}$ d) $2\sqrt{2}$
5.	$2x + y = 1 \quad / \cdot 2$ $x - 2y = 3$ <hr/> $4x + 2y = 2$ $x - 2y = 3$ <hr/> $5x = 5$ $x = 1$ $2 \cdot 1 + y = 1$ $y = 1 - 2$ $y = -1$ $x + y = 1 - 1 = 0$
	a) 0 b) -1 c) 2 d) 1
6.	$x^2 - 3x + 2 = 0$ Po Viete - ovim pravilima zbir rješenja kvadratne jednačine $ax^2 + bx + c = 0$ je: $x_1 + x_2 = \frac{-b}{a} = \frac{3}{1} = 3$
	a) 2 b) -3 c) -2 d) 3

7.	$\frac{2x-3}{3x-2} \leq 0$ <p><i>D.p.:</i> $3x-2 \neq 0 \Rightarrow x \neq \frac{2}{3}$</p> $\frac{2x-3}{3x-2} \leq 0$ $x \in \left(\frac{2}{3}, \frac{3}{2}\right].$	<table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">$-\infty$</td> <td style="text-align: center;">$\frac{2}{3}$</td> <td style="text-align: center;">$\frac{3}{2}$</td> <td style="text-align: center;">$+\infty$</td> </tr> <tr> <td style="text-align: center;">$2x-3$</td> <td style="text-align: center;">-</td> <td style="text-align: center;">-</td> <td style="text-align: center;">+</td> </tr> <tr> <td style="text-align: center;">$3x-2$</td> <td style="text-align: center;">-</td> <td style="text-align: center;">+</td> <td style="text-align: center;">+</td> </tr> <tr> <td style="text-align: center;">R</td> <td style="text-align: center;">+</td> <td style="text-align: center;">-</td> <td style="text-align: center;">+</td> </tr> </table>	$-\infty$	$\frac{2}{3}$	$\frac{3}{2}$	$+\infty$	$2x-3$	-	-	+	$3x-2$	-	+	+	R	+	-	+
$-\infty$	$\frac{2}{3}$	$\frac{3}{2}$	$+\infty$															
$2x-3$	-	-	+															
$3x-2$	-	+	+															
R	+	-	+															
<p>a) $\left(\frac{1}{2}, \frac{2}{3}\right]$ b) $\left(\frac{2}{3}, \frac{3}{2}\right]$ c) $\left(\frac{1}{2}, 1\right]$ d) $\left[-\frac{1}{2}, \frac{2}{3}\right)$</p>																		
8.	$ Z = \sqrt{(-5)^2 + (-5)^2} = \sqrt{50} = 5\sqrt{2}.$																	
<p>a) $5\sqrt{2}$ b) 1 c) 5 d) $\sqrt{10}$</p>																		
9.	$\sin x = \frac{1}{2}$ $x_1 = \frac{\pi}{6} + 2k\pi \Rightarrow x_1 = \frac{\pi}{6} + 2k\pi$ $x_1 = \frac{\pi}{6} \in \left[0, \frac{\pi}{2}\right]$ <p>Rješenje jednačine je: $\frac{\pi}{6}.$</p>																	
<p>a) $\frac{\pi}{4}$ b) $\frac{\pi}{6}$ c) $\frac{\pi}{3}$ d) $\frac{2\pi}{3}$</p>																		
10.	<p><i>Dijagonala pravougaonika može se izračunati primjenom Pitagorine teoreme. Dijagonala je hipotenuza a stranice pravougaonika su katete pravouglog trougla, pa vrijedi:</i></p> $d = \sqrt{a^2 + b^2} = \sqrt{6^2 + 8^2} = 10.$																	
<p>a) 14 b) 10 c) 7 d) 2</p>																		