

**Rješenja zadatka višestrukog izbora**

Broj zadatka	Tačna alternativa
1.	A
2.	D
3.	C ili D
4.	B
5.	C
6.	A
7.	B
8.	D

**9. Ukupno 3 boda**

$$z = \frac{-1+i}{1+i} = \frac{-1+i}{1+i} \cdot \frac{1-i}{1-i} = \dots = i \dots\dots\dots 1 \text{ bod}$$

$$z^{2017} = i^{2017} = i^{4 \cdot 504 + 1} = i \dots\dots\dots 1 \text{ bod}$$

$$\operatorname{Re}(z^{2017}) = \operatorname{Re}(i) = 0 \dots\dots\dots 1$$

bod

**10. Ukupno 2 boda**

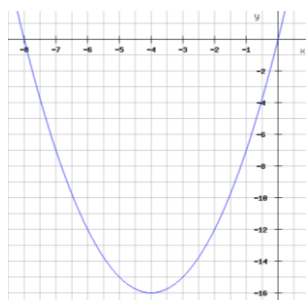
$$\left(\frac{1}{a} + \frac{1}{b}\right) ab \frac{1}{b^2 - a^2} \dots\dots\dots 1 \text{ bod}$$

$$\frac{b+a}{ab} \cdot ab \frac{1}{(b-a)(b+a)} = \frac{1}{b-a} \dots\dots\dots 1 \text{ bod}$$

**11. Ukupno 4 boda**

$$D < 0, b^2 - 4ac < 0 \dots\dots\dots 1 \text{ bod}$$

$$p^3(p+8) < 0 \Leftrightarrow p(p+8) < 0 \dots\dots\dots 1 \text{ bod}$$



$$\text{ili } (p < 0 \wedge p+8 > 0) \vee (p > 0 \wedge p+8 < 0) \dots\dots\dots 1 \text{ bod}$$

$$p \in (-8, 0) \dots\dots\dots 1 \text{ bod}$$

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**12. Ukupno 3 boda**

$5^{\frac{x-1}{3}} = 5^{-\frac{x+1}{4}}$  ..... 1 bod

$\frac{x-1}{3} = -\frac{x+1}{4}$  ..... 1 bod

$4x-4 = -3x-3, x = \frac{1}{7}$  ..... 1 bod

**13. Ukupno 5 bodova**

$\log(x-2)(x+1) = 1$  ..... 1 bod

$(x-2)(x+1) = 10$  ..... 1 bod

$x^2 - x - 12 = 0$  ..... 1 bod

$x_1 = -3, x_2 = 4$  ..... 1 bod

$D = (2, +\infty)$  i konstatovano da je rješenje jednačine 4, ili samo konstatovano da je rješenje jednačine 4 ..... 1 bod

**14. Ukupno 3 boda**

$\sin(x-y)\sin(x+y) = (\sin x \cos y - \cos x \sin y)(\sin x \cos y + \cos x \sin y) =$  ..... 1 bod  
 $= \sin^2 x \cos^2 y - \cos^2 x \sin^2 y$

$\sin^2 x \cos^2 y - \cos^2 x \sin^2 y = \sin^2 x(1 - \sin^2 y) - (1 - \sin^2 x)\sin^2 y$  ..... 1

bod

Sređivanjem izraza dobijeno  $\sin^2 x - \sin^2 y$  ..... 1 bod

**15. Ukupno 4 boda**

$r_1 = 15 \text{ cm}, H_1 = 10 \text{ cm}$

$r_2 = 10 \text{ cm}, H_2 = 15 \text{ cm}$  ..... 1 bod

$r_3 = 5 \text{ cm}, H_3 = 20 \text{ cm}$

$P = M_1 + M_2 + M_3 + (B_1 - B_2) + (B_2 - B_3) + B_3$  ..... 1 bod

$P = M_1 + M_2 + M_3 + B_1 = 2r_1\pi H_1 + 2r_2\pi H_2 + 2r_3\pi H_3 + r_1^2\pi$  ..... 1 bod

$P = 1025\pi \text{ cm}^2$  ..... 1 bod

**16. Ukupno 2 boda**

Jednačina prave kroz tačke A i B:  $y = x + 3$  ili  $k = 1$  ..... 1 bod

$k = \text{tg}\varphi = 1 \Rightarrow \varphi = 45^\circ$  ..... 1 bod

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**17. Ukupno 4 boda**

$C(r,0)$  ..... 1 bod

$(8-r)^2 + 4^2 = r^2$  ..... 1 bod

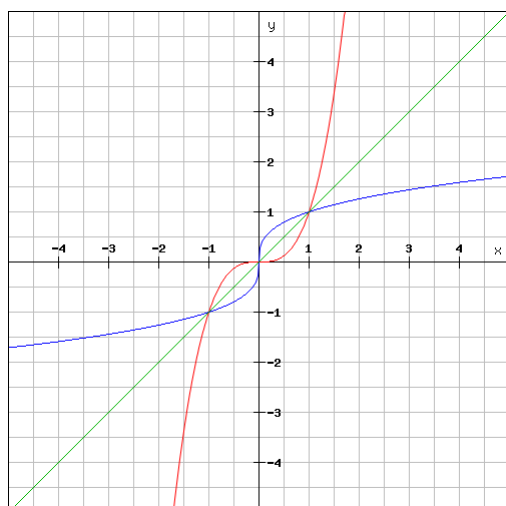
$16r = 80$  ..... 1 bod

$r = 5 \Rightarrow (x-5)^2 + y^2 = 25$  ..... 1 bod

**18. Ukupno 3 boda**

a)  $f^{-1}(x) = x^3$  ..... 1 bod

b) Nacrtan grafik koji je simetričan u odnosu na pravu  $y = x$



..... 1 bod

c)  $f^{-1}(x) > f(x)$  za  $x \in (-1,0) \cup (1,+\infty)$  ..... 1 bod

**19. Ukupno 3 boda**

$a_n = 161 - 4(n-1)$ ,  $b_n = 0 + 3(n-1)$  ..... 1 bod

$a_n = b_n \Rightarrow 161 - 4(n-1) = 3(n-1)$  ..... 1 bod

$n = 24$  ..... 1 bod

**20. Ukupno 3 boda**

Broj povoljnih ishoda  $\binom{6}{3} \binom{2}{1}$  ..... 1 bod

Broj mogućih ishoda  $\binom{8}{4}$  ..... 1 bod

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$p(A) = \frac{4}{7}$  ..... 1 bod