1. Prikaži u trigonometrijskom obliku kompleksne brojeve:

a) $z=-\frac{7}{8}$ R: $z=\frac{7}{8}(\cos\pi+i\sin\pi)$

b) $z=-1$ R: $z=\cos\pi+i\sin\pi$

c) $z=50$ R: $z=50(\cos 0+i\sin 0)$

d) $z=15i$ R: $z=15(\cos\frac{\pi}{2}+i\sin\frac{\pi}{2})$

e) $z=-\frac{1}{2}i$ R: $z=\frac{1}{2}(\cos\frac{3\pi}{2}+i\sin\frac{3\pi}{2})$

f) $z=\frac{7}{3}i$ R: $z=\frac{7}{3}(\cos\frac{\pi}{2}+i\sin\frac{\pi}{2})$

g) $z=3-3i$ R: $z=3\sqrt{2}(\cos\frac{7\pi}{4}+i\sin\frac{7\pi}{4})$)

h) $z=\frac{3}{2}+\frac{3\sqrt{3}}{2}i$ R: $z=\frac{9}{2}(\cos\frac{\pi}{3}+i\sin\frac{\pi}{3})$

i) $z=-4\sqrt{3}+4i$ R: $z=8(\cos\frac{5\pi}{6}+i\sin\frac{5\pi}{6})$

j) $z=-2-5i$ R: $z=\sqrt{29}(\cos 4{,}33188+i\sin 4{,}33188)$

k) $z=2\sqrt{5}-4i$ R: $z=6(\cos 5{,}55346+i\sin 5{,}55346)$

l) $z=-1-\frac{1}{5}i$ R: $z=\frac{\sqrt{26}}{5}(\cos 3{,}33899+i\sin 3{,}33899)$

2. Prikaži u trigonometrijskom obliku kompleksne brojeve: str 55/16

(Uputa: za svaki zadatak posebno nacrtaj trigonometrijsku kružnicu i na njoj označi točke u koje se preslikaju zadani argumenti(to su brojevi uz cos i sin)pa njihove sinuse(ordinata točke!) i kosinuse(apscisa točke!) prepoznaj kao sinuse i kosinuse istog broja)

a) $z=2\cos\frac{7\pi}{4}-2i\sin\frac{\pi}{4}$ R: $z=2\left(\cos\frac{7\pi}{4}+i\sin\frac{7\pi}{4}\right)$

b) $z=-\cos\frac{\pi}{17}+i\sin\frac{\pi}{17}$ R: $z=\cos\frac{16\pi}{17}+i\sin\frac{16\pi}{17}$

c) $z=-2(\cos\frac{\pi}{8}+i\sin\frac{\pi}{8})$ R: $z=2\left(\cos\frac{9\pi}{8}+i\sin\frac{9\pi}{8}\right)$

d) $z=-3(\cos\frac{\pi}{7}-i\sin\frac{\pi}{7})$ R: $z=3\left(\cos\frac{6\pi}{7}+i\sin\frac{6\pi}{7}\right)$

e) $z=1+\cos\frac{2\pi}{5}+i\sin\frac{2\pi}{5}$ R: $z=2\cos\frac{\pi}{5}\left(\cos\frac{\pi}{5}+i\sin\frac{\pi}{5}\right)$

(*Uputa:primijeni formule za sinus i kosinus dvostrukog argumenta i rastavi* 1)

str. 55/17

f) $z=3\cos\frac{11\pi}{4}-3i\sin\frac{5\pi}{4}$ R: $z=3\left(\cos\frac{3\pi}{4}+i\sin\frac{3\pi}{4}\right)$

g) $z=-\cos\frac{\pi}{11}+i\sin\frac{\pi}{11}$ R: $z=\cos\frac{10\pi}{11}+i\sin\frac{10\pi}{11}$

h) $z=3(\sin\frac{\pi}{12}-i\cos\frac{\pi}{12})$ R: $z=3\left(\cos\frac{19\pi}{12}+i\sin\frac{19\pi}{12}\right)$

i) $z=-\sqrt{2}\cos\frac{5\pi}{4}-i\sqrt{2}\sin\frac{11\pi}{4}$ R: $z=\sqrt{2}\left(\cos\frac{7\pi}{4}+i\sin\frac{7\pi}{4}\right)$

j) $z=1+\cos\frac{10\pi}{9}+i\sin\frac{10\pi}{9}$ R: $z=2\cos\frac{5\pi}{9}\left(\cos\frac{5\pi}{9}+i\sin\frac{5\pi}{9}\right)$

k) $z=1-\cos\frac{5\pi}{3}-i\sin\frac{5\pi}{3}$ R: $z=\cos\frac{\pi}{3}+i\sin\frac{\pi}{3}$

3. Odredi trigonometrijski oblik kompleksnih brojeva pa izračunaj:
Matematika 4 za gimnaziju, 1. dio (S. Antoliš, A. Copić; Školska knjiga, 2005.), str. 39-zadatak 36

a) $-4i\cdot(-1-i)\cdot\left(\cos\frac{2\pi}{5}+i\sin\frac{2\pi}{5}\right)$ R: $4\sqrt{2}\left(\cos\frac{23\pi}{20}+i\sin\frac{23\pi}{20}\right)$

b) $-\frac{1}{2}i\cdot\left(-1-i\sqrt{3}\right)\cdot\left(\cos\frac{2\pi}{9}+i\sin\frac{2\pi}{9}\right)$ R: $\cos\frac{19\pi}{18}+i\sin\frac{19\pi}{18}$

c) $\frac{2}{3}i\cdot\left(-\cos\frac{\pi}{6}-i\sin\frac{\pi}{6}\right)\cdot\left(-\cos\frac{2\pi}{15}+i\sin\frac{2\pi}{15}\right)$ R: $\frac{2}{3}\left(\cos\frac{8\pi}{15}+i\sin\frac{8\pi}{15}\right)$

d) $\frac{2}{3}i\cdot\left(-\cos\frac{7\pi}{8}+i\sin\frac{7\pi}{8}\right)\cdot\left(\cos\frac{11\pi}{6}-i\sin\frac{11\pi}{6}\right)$ R: $\frac{2}{3}\left(\cos\frac{19\pi}{24}+i\sin\frac{19\pi}{24}\right)$

e) $\dfrac{\left(-2\sqrt{3}+2i\right)\cdot\left(\cos\frac{\pi}{18}-i\sin\frac{\pi}{18}\right)}{2\left(\cos\frac{5\pi}{9}+i\sin\frac{5\pi}{9}\right)}$ R: $2\left(\cos\frac{2\pi}{9}+i\sin\frac{2\pi}{9}\right)$

f) $\dfrac{\left(-\cos\frac{11\pi}{12}-i\sin\frac{11\pi}{12}\right)\left(2\sqrt{2}-2i\sqrt{6}\right)}{4\left(\cos\frac{5\pi}{4}+i\sin\frac{5\pi}{4}\right)}$ R: $\sqrt{2}\left(\cos\frac{\pi}{3}+i\sin\frac{\pi}{3}\right)$

Matematika 4, (Dakić, Elezović) str. 62/12-1,2

g) $\dfrac{1+i\sqrt{3}}{2i\cdot\left(\cos\frac{\pi}{3}+i\sin\frac{\pi}{3}\right)}$ R: $\cos\frac{3\pi}{2}+i\sin\frac{3\pi}{2}$

h) $\dfrac{i-1}{\cos\frac{5\pi}{6}+i\sin\frac{5\pi}{6}}$ R: $\sqrt{2}\left(\cos\frac{23\pi}{12}+i\sin\frac{23\pi}{12}\right)$

Matematika 4, (Dakić, Elezović) str. 55/20

i) $\dfrac{i-1}{\cos\frac{\pi}{3}+i\sin\frac{\pi}{3}}$ R: $\sqrt{2}\left(\cos\frac{5\pi}{12}+i\sin\frac{5\pi}{12}\right)$

j) $\dfrac{1+i\sqrt{3}}{2i\cdot\left(\cos\frac{5\pi}{3}-i\sin\frac{5\pi}{3}\right)}$ R: $\cos\frac{3\pi}{2}+i\sin\frac{3\pi}{2}$

k) $\dfrac{\sqrt{3}-i}{i\cdot\left(\cos\frac{7\pi}{6}-i\sin\frac{7\pi}{6}\right)}$ R: $2\left(\cos\frac{\pi}{2}+i\sin\frac{\pi}{2}\right)$

l) $\dfrac{i-1}{i\cdot\left(1-\cos\frac{2\pi}{5}\right)+\sin\frac{2\pi}{5}}$ R: $\dfrac{\sqrt{2}}{2\sin\frac{\pi}{5}}\left(\cos\frac{11\pi}{20}+i\sin\frac{11\pi}{20}\right)$

4. Kompleksan broj prikaži u trigonometrijskom obliku pa ga potenciraj:
Matematika 4 za gimnaziju, 1. dio, Školska knjiga, str. 39 – zadatak 38

a) $(1+i)^7$ R: $8\sqrt{2}\left(\cos\frac{7\pi}{4}+i\sin\frac{7\pi}{4}\right)$

b) $(2-2i)^5$ R: $128\sqrt{2}\left(\cos\frac{3\pi}{4}+i\sin\frac{3\pi}{4}\right)$

c) $\left(\sqrt{3}-i\right)^{4}$ R: $16\left(\cos\frac{4\pi}{3}+i\sin\frac{4\pi}{3}\right)$

d) $\left(1+i\sqrt{3}\right)^{6}$ R: $64\left(\cos 2\pi+i\sin 2\pi\right)$

Matematika 4, (Dakić, Elezović) str. 61/6

e) $\left(i-\sqrt{3}\right)^{13}$ R: $2^{13}\left(\cos\frac{5\pi}{6}+i\sin\frac{5\pi}{6}\right)$

f) $\left(1-i\right)^{11}$ R: $32\sqrt{2}\left(\cos\frac{5\pi}{4}+i\sin\frac{5\pi}{4}\right)$

g) $\left(-\frac{\sqrt{2}}{2}-i\frac{\sqrt{2}}{2}\right)^{50}$ R: $\cos\frac{\pi}{2}+i\sin\frac{\pi}{2}$

Matematika 4 za gimnaziju, 1. dio, Školska knjiga, str. 39 - zadatak 39

h) $\left(\frac{1}{2}-i\frac{\sqrt{3}}{2}\right)^{201}$ R: $\cos\pi+i\sin\pi$

i) $\left(-\frac{1}{\sqrt{2}}+i\frac{1}{\sqrt{2}}\right)^{102}$ R: $\cos\frac{\pi}{2}+i\sin\frac{\pi}{2}$

j) $\left(\frac{2}{\sqrt{3}+i}\right)^{2004}$ R: $\cos 0+i\sin 0$

k) $\left(\frac{4i}{2-2i\sqrt{3}}\right)^{600}$ R: $\cos 0+i\sin 0$

l) $\left(\frac{\sqrt{3}-i}{\cos\frac{\pi}{18}+i\sin\frac{\pi}{18}}\right)^{9}$ R: $2^{9}\left(\cos 0+i\sin 0\right)$

m) $\left(\frac{\sqrt{2}\cos\frac{\pi}{15}+i\sqrt{2}\sin\frac{\pi}{15}}{1+i}\right)^{6}$ R: $\cos\frac{9\pi}{10}+i\sin\frac{9\pi}{10}$

n) $\dfrac{\left(\cos\frac{2\pi}{7}-i\sin\frac{2\pi}{7}\right)^{5}}{\left(-\cos\frac{3\pi}{14}+i\sin\frac{3\pi}{14}\right)^{-7}}$ R: $\cos\frac{\pi}{14}+i\sin\frac{\pi}{14}$

o) $\dfrac{\left[2i\left(\sin\frac{3\pi}{5}-i\cos\frac{3\pi}{5}\right)\right]^{15}}{64\cdot\left(-\cos\frac{4\pi}{15}+i\sin\frac{4\pi}{15}\right)^{-5}}$ R: $2^{9}\left(\cos\frac{2\pi}{3}+i\sin\frac{2\pi}{3}\right)$

5. Matematika 4, (Dakić, Elezović) str. 61/5 Izračunaj $z^{12}:w^{5}$ ako je
$z=\sqrt{2}\left(-\cos\frac{\pi}{4}+i\sin\frac{3\pi}{4}\right)$, a $w=2\sqrt{2}\sin\frac{5\pi}{16}-i2\sqrt{2}\cos\frac{5\pi}{16}$.

R: $z=\sqrt{2}\left(\cos\frac{3\pi}{4}+i\sin\frac{3\pi}{4}\right), w=2\sqrt{2}\left(\cos\frac{29\pi}{16}+i\sin\frac{29\pi}{16}\right), \frac{z^{12}}{w^{5}}=\frac{\sqrt{2}}{4}\left(\cos\frac{31\pi}{16}+i\sin\frac{31\pi}{16}\right)$

6. Dakić I.11.6. Izračunaj $z^{9}:w^{8}$ ako je $z=3\cos\frac{3\pi}{4}-3i\sin\frac{3\pi}{4}$, a $w=-6\cos\frac{5\pi}{6}+6i\sin\frac{5\pi}{6}$.

R: $z=3\left(\cos\frac{5\pi}{4}+i\sin\frac{5\pi}{4}\right), w=6\left(\cos\frac{\pi}{6}+i\sin\frac{\pi}{6}\right), \frac{z^{9}}{w^{8}}=\frac{3}{2^{8}}\left(\cos\frac{23\pi}{12}+i\sin\frac{23\pi}{12}\right)$

7. Dakić I.12.6. Izračunaj $z^5 : w^{12}$ ako je $z = 2\sin\frac{5\pi}{6} - 2i\cos\frac{5\pi}{6}$, a $w = \sqrt{2}\cos\frac{5\pi}{16} - i\sqrt{2}\sin\frac{5\pi}{16}$.

R: $z = 2\left(\cos\frac{\pi}{3} + i\sin\frac{\pi}{3}\right), w = \sqrt{2}\left(\cos\frac{27\pi}{16} + i\sin\frac{27\pi}{16}\right), \frac{z^5}{w^{12}} = \frac{1}{2}\left(\cos\frac{17\pi}{12} + i\sin\frac{17\pi}{12}\right)$

8. Dakić I.13.6. Izračunaj z^{15} i $\sqrt[4]{z}$ ako je $z = -\cos\frac{2\pi}{5} - i\sin\frac{2\pi}{5}$.

R: $z^{15} = \cos\pi + i\sin\pi, \sqrt[4]{z} = \cos\frac{\frac{7\pi}{5} + 2k\pi}{4} + i\sin\frac{\frac{7\pi}{5} + 2k\pi}{4}$ za $k = 0,1,2,3$

9. Dakić I.14.6. Izračunaj z^{12} i $\sqrt[4]{z}$ ako je $z = -2\sin\frac{5\pi}{6} - 2i\cos\frac{11\pi}{6}$.

R: $z = 2\left(\cos\frac{4\pi}{3} + i\sin\frac{4\pi}{3}\right), z^{12} = 2^{12}(\cos 0 + i\sin 0), \sqrt[4]{z} = \sqrt[4]{2}\left(\cos\frac{\frac{4\pi}{3} + 2k\pi}{4} + i\sin\frac{\frac{4\pi}{3} + 2k\pi}{4}\right)$ za $k = 0,1,2,3$

10. Kompleksne brojeve prikaži u trigonometrijskom obliku pa ih korjenuj:
Matematika 4 za gimnaziju,1.dio, Školska knjiga,str.39-zadaci 40,41,42.

a) $\sqrt{2i}$ R: $\sqrt{2}\left(\cos\frac{\pi}{4} + i\sin\frac{\pi}{4}\right), \sqrt{2}\left(\cos\frac{5\pi}{4} + i\sin\frac{5\pi}{4}\right)$

b) $\sqrt{-5}$ R: $\sqrt{5}\left(\cos\frac{\pi}{2} + i\sin\frac{\pi}{2}\right), \sqrt{5}\left(\cos\frac{3\pi}{2} + i\sin\frac{3\pi}{2}\right)$

c) $\sqrt{-7 + 24i}$

R: $5(\cos 0{,}9273 + i\sin 0{,}9273)$, $5(\cos 4{,}06889 + i\sin 4{,}06889)$

d) $\sqrt{9 - 40i}$

R: $\sqrt{41}(\cos 2{,}46685 + i\sin 2{,}46685), \sqrt{41}(\cos 5{,}60844 + i\sin 5{,}60844)$

e) $\sqrt{-1 - i}$ R: $\sqrt[4]{2}\left(\cos\frac{5\pi}{8} + i\sin\frac{5\pi}{8}\right), \sqrt[4]{2}\left(\cos\frac{13\pi}{8} + i\sin\frac{13\pi}{8}\right)$

f) $\sqrt{2 - 2i}$ R: $\sqrt[4]{8}\left(\cos\frac{7\pi}{8} + i\sin\frac{7\pi}{8}\right), \sqrt[4]{8}\left(\cos\frac{15\pi}{8} + i\sin\frac{15\pi}{8}\right)$

g) $\sqrt[3]{-i}$ R: $\cos\frac{\pi}{2} + i\sin\frac{\pi}{2}, \cos\frac{7\pi}{6} + i\sin\frac{7\pi}{6}, \cos\frac{11\pi}{6} + i\sin\frac{11\pi}{6}$

h) $\sqrt[3]{8i}$ R: $2\left(\cos\frac{\pi}{6} + i\sin\frac{\pi}{6}\right), 2\left(\cos\frac{5\pi}{6} + i\sin\frac{5\pi}{6}\right), 2\left(\cos\frac{3\pi}{2} + i\sin\frac{3\pi}{2}\right)$

i) $\sqrt[4]{1}$ R: $\cos o + i\sin o, \cos\frac{\pi}{2} + i\sin\frac{\pi}{2}, \cos\pi + i\sin\pi, \cos\frac{3\pi}{2} + i\sin\frac{3\pi}{2}$

j) $\sqrt[5]{-32}$

R: $2\left(\cos\frac{\pi}{5} + i\sin\frac{\pi}{5}\right), 2\left(\cos\frac{3\pi}{5} + i\sin\frac{3\pi}{5}\right), 2(\cos\pi + i\sin\pi), 2\left(\cos\frac{7\pi}{5} + i\sin\frac{7\pi}{5}\right), 2\left(\cos\frac{9\pi}{5} + i\sin\frac{9\pi}{5}\right)$

k) $\sqrt[5]{243i}$

R: $3\left(\cos\frac{\pi}{10} + i\sin\frac{\pi}{10}\right), 3\left(\cos\frac{\pi}{2} + i\sin\frac{\pi}{2}\right), 3\left(\cos\frac{9\pi}{10} + i\sin\frac{9\pi}{10}\right), 3\left(\cos\frac{13\pi}{10} + i\sin\frac{13\pi}{10}\right), 3\left(\cos\frac{17\pi}{10} + i\sin\frac{17\pi}{10}\right)$

l) $\sqrt[6]{64}$

R: $2(\cos 0 + i\sin 0), 2\left(\cos\frac{\pi}{3} + i\sin\frac{\pi}{3}\right), 2\left(\cos\frac{2\pi}{3} + i\sin\frac{2\pi}{3}\right), 2(\cos\pi + i\sin\pi), 2\left(\cos\frac{4\pi}{3} + i\sin\frac{4\pi}{3}\right), 2\left(\cos\frac{5\pi}{3} + i\sin\frac{5\pi}{3}\right)$

m) $\sqrt[3]{-8 - 8i}$

R: $2\sqrt[6]{2}\left(\cos\frac{5\pi}{12} + i\sin\frac{5\pi}{12}\right), 2\sqrt[6]{2}\left(\cos\frac{13\pi}{12} + i\sin\frac{13\pi}{12}\right), 2\sqrt[6]{2}\left(\cos\frac{21\pi}{12} + i\sin\frac{21\pi}{12}\right)$

n) $\sqrt[4]{2 - 2i}$

R: $\sqrt[8]{8}\left(\cos\frac{7\pi}{16}+i\sin\frac{7\pi}{16}\right), \sqrt[8]{8}\left(\cos\frac{15\pi}{16}+i\sin\frac{15\pi}{16}\right), \sqrt[8]{8}\left(\cos\frac{23\pi}{16}+i\sin\frac{23\pi}{16}\right), \sqrt[8]{8}\left(\cos\frac{31\pi}{16}+i\sin\frac{31\pi}{16}\right)$

o) $\sqrt[6]{\frac{1-i\sqrt{3}}{1-i}}$

R: $\sqrt[12]{2}\left(\cos\frac{23\pi}{72}+i\sin\frac{23\pi}{72}\right), \sqrt[12]{2}\left(\cos\frac{47\pi}{72}+i\sin\frac{47\pi}{72}\right), \sqrt[12]{2}\left(\cos\frac{71\pi}{72}+i\sin\frac{71\pi}{72}\right), \sqrt[12]{2}\left(\cos\frac{95\pi}{72}+i\sin\frac{95\pi}{72}\right),$

$\sqrt[12]{2}\left(\cos\frac{119\pi}{72}+i\sin\frac{119\pi}{72}\right), \sqrt[12]{2}\left(\cos\frac{143\pi}{72}+i\sin\frac{143\pi}{72}\right)$

p) $\sqrt[5]{\frac{1-i\sqrt{3}}{\sqrt{2}-i\sqrt{2}}}$

R: $\cos\frac{23\pi}{60}+i\sin\frac{23\pi}{60}, \cos\frac{47\pi}{60}+i\sin\frac{47\pi}{60}, \cos\frac{71\pi}{60}+i\sin\frac{71\pi}{60}, \cos\frac{95\pi}{60}+i\sin\frac{95\pi}{60}, \cos\frac{119\pi}{60}+i\sin\frac{119\pi}{60}$

r) $\sqrt[4]{\frac{-16i\sqrt{2}}{1+i}}$

R: $2\left(\cos\frac{5\pi}{16}+i\sin\frac{5\pi}{16}\right), 2\left(\cos\frac{13\pi}{16}+i\sin\frac{13\pi}{16}\right), 2\left(\cos\frac{21\pi}{16}+i\sin\frac{21\pi}{16}\right), 2\left(\cos\frac{29\pi}{16}+i\sin\frac{29\pi}{16}\right)$

s) $\sqrt[3]{\frac{16}{\sqrt{3}+i}}$

R: $2\left(\cos\frac{11\pi}{18}+i\sin\frac{11\pi}{18}\right), 2\left(\cos\frac{23\pi}{18}+i\sin\frac{23\pi}{18}\right), 2\left(\cos\frac{35\pi}{18}+i\sin\frac{35\pi}{18}\right)$

t) $\sqrt[5]{\left(\cos\frac{3\pi}{4}+i\sin\frac{3\pi}{4}\right)\left(\cos\frac{\pi}{12}-i\sin\frac{\pi}{12}\right)}$

R: $\cos\frac{2\pi}{15}+i\sin\frac{2\pi}{15}, \cos\frac{8\pi}{15}+i\sin\frac{8\pi}{15}, \cos\frac{14\pi}{15}+i\sin\frac{14\pi}{15}, \cos\frac{20\pi}{15}+i\sin\frac{20\pi}{15}, \cos\frac{26\pi}{15}+i\sin\frac{26\pi}{15}$

u) $\sqrt[4]{\left(\cos\frac{\pi}{4}-i\sin\frac{\pi}{4}\right)\left(\cos\frac{5\pi}{8}+i\sin\frac{5\pi}{8}\right)}$

R: $\cos\frac{3\pi}{32}+i\sin\frac{3\pi}{32}, \cos\frac{19\pi}{32}+i\sin\frac{19\pi}{32}, \cos\frac{35\pi}{32}+i\sin\frac{35\pi}{32}, \cos\frac{51\pi}{32}+i\sin\frac{51\pi}{32}$

11. Riješi jednadžbe u skupu kompleksnih brojeva:

Matematika 4 za gimnaziju,1.dio, Školska knjiga,str.39-zadatak 43

a) $z^4+81=0$

R: $3\left(\cos\frac{\pi}{4}+i\sin\frac{\pi}{4}\right),\ 3\left(\cos\frac{3\pi}{4}+i\sin\frac{3\pi}{4}\right),\ 3\left(\cos\frac{5\pi}{4}+i\sin\frac{5\pi}{4}\right),\ 3\left(\cos\frac{7\pi}{4}+i\sin\frac{7\pi}{4}\right)$

b) $z^4+16i=0$

R: $2\left(\cos\frac{3\pi}{8}+i\sin\frac{3\pi}{8}\right),\ 2\left(\cos\frac{7\pi}{8}+i\sin\frac{7\pi}{8}\right),\ 2\left(\cos\frac{11\pi}{8}+i\sin\frac{11\pi}{8}\right),\ 2\left(\cos\frac{15\pi}{8}+i\sin\frac{15\pi}{8}\right)$

c) $z^5-32i=0$

R: $2\left(\cos\frac{\pi}{10}+i\sin\frac{\pi}{10}\right),\ 2\left(\cos\frac{\pi}{2}+i\sin\frac{\pi}{2}\right),\ 2\left(\cos\frac{9\pi}{10}+i\sin\frac{9\pi}{10}\right),\ 2\left(\cos\frac{13\pi}{10}+i\sin\frac{13\pi}{10}\right),\ 2\left(\cos\frac{17\pi}{10}+i\sin\frac{17\pi}{10}\right)$

d) $z^6+1=0$

R: $\cos\frac{\pi}{6}+i\sin\frac{\pi}{6}, \cos\frac{\pi}{2}+i\sin\frac{\pi}{2}, \cos\frac{5\pi}{6}+i\sin\frac{5\pi}{6}, \cos\frac{7\pi}{6}+i\sin\frac{7\pi}{6}, \cos\frac{3\pi}{2}+i\sin\frac{3\pi}{2}, \cos\frac{11\pi}{6}+i\sin\frac{11\pi}{6}$

e) $\left(z^2+i\right)\left(z^3+8i\right)=0$

R: $\cos\frac{3\pi}{4}+i\sin\frac{3\pi}{4}, \cos\frac{7\pi}{4}+i\sin\frac{7\pi}{4}, 2\left(\cos\frac{\pi}{2}+i\sin\frac{\pi}{2}\right), 2\left(\cos\frac{7\pi}{6}+i\sin\frac{7\pi}{6}\right), 2\left(\cos\frac{11\pi}{6}+i\sin\frac{11\pi}{6}\right)$

f) $\left(z^4+i\right)\left(z^3-27i\right)=0$

R: $\cos\frac{3\pi}{8}+i\sin\frac{3\pi}{8}, \cos\frac{7\pi}{8}+i\sin\frac{7\pi}{8}, \cos\frac{11\pi}{8}+i\sin\frac{11\pi}{8}, \cos\frac{15\pi}{8}+i\sin\frac{15\pi}{8},$

$3\left(\cos\frac{\pi}{6}+i\sin\frac{\pi}{6}\right), 3\left(\cos\frac{5\pi}{6}+i\sin\frac{5\pi}{6}\right), 3\left(\cos\frac{3\pi}{2}+i\sin\frac{3\pi}{2}\right)$

g) $z^3+z^2+z+1=0$

Uputa: $z^3+z^2+z+1=\dfrac{z^4-1}{z-1}=0$ *za* $z\neq 1$ *pa se rješavanje zadane jednadžbe svodi na rješavanje jedadžbe* $z^4-1=0$.

R: $\cos\frac{\pi}{2}+i\sin\frac{\pi}{2},\cos\pi+i\sin\pi,\cos\frac{3\pi}{2}+i\sin\frac{3\pi}{2}$,

h) $z^4+z^3+z^2+z+1=0$

R: $\cos\frac{2\pi}{5}+i\sin\frac{2\pi}{5},\cos\frac{4\pi}{5}+i\sin\frac{4\pi}{5},\cos\frac{6\pi}{5}+i\sin\frac{6\pi}{5},\cos\frac{8\pi}{5}+i\sin\frac{8\pi}{5}$,

12. Dakić I.15.6. Odredi sve kompleksne brojeve z takve da je $z^3=-\cos\frac{\pi}{4}+i\sin\frac{3\pi}{4}$.

R: $\cos\frac{\pi}{4}+i\sin\frac{\pi}{4},\cos\frac{11\pi}{12}+i\sin\frac{11\pi}{12},\cos\frac{19\pi}{12}+i\sin\frac{19\pi}{12}$,

13. Dakić I.16.6. Odredi sve kompleksne brojeve z takve da je $z^4=\cos\frac{2\pi}{3}-i\sin\frac{\pi}{3}$.

R: $\cos\frac{\pi}{3}+i\sin\frac{\pi}{3},\cos\frac{5\pi}{6}+i\sin\frac{5\pi}{6},\cos\frac{4\pi}{3}+i\sin\frac{4\pi}{3},\cos\frac{11\pi}{6}+i\sin\frac{11\pi}{6}$,