

Zadatak 6. Ako je $z = \cos \frac{2\pi}{3} + i \sin \frac{2\pi}{3}$, koliko je $(1+z)^n$?

Rješenje.

$$z = \cos \frac{2\pi}{3} + i \sin \frac{2\pi}{3} = -\frac{1}{2} + \frac{\sqrt{3}}{2}i$$

$$z + 1 = \frac{1}{2} + \frac{\sqrt{3}}{2}i = \cos \frac{\pi}{3} + i \sin \frac{\pi}{3}$$

$$\left(\cos \frac{\pi}{3} + i \sin \frac{\pi}{3}\right)^n = \cos \frac{n\pi}{3} + i \sin \frac{n\pi}{3}.$$