

Rješenja zadataka 2.3

Zadatak 1. Zapiši prvih nekoliko članova geometrijskog niza ako je:

1) $a_1 = -6, q = \frac{1}{3};$

2) $a_1 = 1, q = \frac{1}{2};$

3) $a_1 = \sqrt{2}, q = -\frac{\sqrt{2}}{2};$

4) $a_1 = 1, q = \frac{\sqrt{5} + 1}{2}.$

Rješenje. 1) $a_1 = -6, q = \frac{1}{3};$

$$\Rightarrow a_1 = -6, a_2 = -2, a_3 = -\frac{2}{3}, a_4 = -\frac{2}{9}, \dots, a_n = -6 \frac{1}{3^{n-1}};$$

2) $a_1 = 1, q = \frac{1}{2};$

$$\Rightarrow a_1 = 1, a_2 = \frac{1}{2}, a_3 = \frac{1}{4}, a_4 = \frac{1}{8}, \dots, a_n = \frac{1}{2^{n-1}};$$

3) $a_1 = \sqrt{2}, q = -\frac{\sqrt{2}}{2};$

$$\Rightarrow a_1 = \sqrt{2}, a_2 = -1, a_3 = \frac{\sqrt{2}}{2}, a_4 = -\frac{1}{2}, \dots, a_n = (-1)^{n+1} \left(\frac{\sqrt{2}}{2} \right)^{n-2};$$

4) $a_1 = 1, q = \frac{\sqrt{5} + 1}{2}.$

$$\Rightarrow a_1 = 1, a_2 = \frac{\sqrt{5} + 1}{2}, a_3 = \left(\frac{\sqrt{5} + 1}{2} \right)^2, a_4 = \left(\frac{\sqrt{5} + 1}{2} \right)^3, \dots, a_n = \left(\frac{\sqrt{5} + 1}{2} \right)^{n-1}.$$