

A közgazdaságtan matematikai alapjai

3. gyakorló feladatsor

Számsorozatok határértékszámítása

1. **Feladat.** Határozzuk meg az a_n sorozatok határértékét!

$$a_n = \frac{n^2 + 1}{2n^2 + n - 1}$$

$$a_n = (-1)^{n+1} \cdot n$$

$$a_n = \frac{1}{2n+3}$$

$$a_n = \sqrt[3]{\frac{2n^2 + 7n - 1}{16n^2 - 8n + 2}}$$

$$a_n = \sqrt{n^2 + n} - n$$

$$a_n = \frac{\sqrt[3]{8} - 1}{\sqrt[3]{4} - 1}$$

$$a_n = \sqrt[n]{n^2 + 4n + 12}$$

$$a_n = \sqrt[n]{100 + 2^{-n}}$$

$$a_n = \left(4 + \frac{1}{n}\right)^n$$

$$a_n = \left(\frac{n-1}{n}\right)^{n^2}$$

$$a_n = \left(1 + \frac{1}{n-12}\right)^{n+5}$$

$$a_n = \left(\frac{n^2 - 4}{3n^2 + 1}\right)^n$$

$$a_n = \left(\frac{2n-7}{3n^2 + 12}\right)^{n-5}$$

$$a_n = -\frac{3}{n^2}$$

$$a_n = 2 + 4n$$

$$a_n = \frac{-n^2 + 5}{5n^2 - 2n}$$

$$a_n = \sqrt{n+1} - \sqrt{n}$$

$$a_n = \sqrt{n^2 - n} - \sqrt{n^2 + n}$$

$$a_n = \sqrt[n]{1 + 2^n}$$

$$a_n = \sqrt[n]{n^2 + 2^n}$$

$$a_n = \frac{n}{\sqrt{2 + n^2}}$$

$$a_n = \left(\frac{2}{3} + \frac{1}{n}\right)^n$$

$$a_n = \left(\frac{n^2 + 1}{n^2 - 2}\right)^{n^3 + 5}$$

$$a_n = \left(1 + \frac{2}{n}\right)^n$$

$$a_n = \left(1 + \frac{1}{n^2}\right)^n$$

$$a_n = n - n^2$$

$$a_n = \left(\frac{n+1}{2n-1}\right)^5$$

$$a_n = n^3 + (-1)^{n-1} \cdot n^3$$

$$a_n = \sqrt{n^2 - 1} - n$$

$$a_n = \sqrt{n^2 + 2} - \sqrt{n^2}$$

$$a_n = \sqrt[n]{\frac{1+n}{2+n}}$$

$$a_n = \left(1 + \frac{1}{3n}\right)^n$$

$$a_n = \sqrt[n]{3^n - 2^n}$$

$$a_n = \left(\frac{5n+2}{5n+1}\right)^{n+1}$$

$$a_n = \left(\frac{n^2 - 4}{3n^2 + 1}\right)^n$$

$$a_n = \left(\frac{n+5}{n-3}\right)^n$$

$$a_n = \left(\frac{n^2 + 1}{n^2 - 2}\right)^{n^2}$$

Jó munkát!