6. A1b Analízis gyakorlat

1. Van-e határértéke a következő sorozatoknak? Ha igen, hova tartanak a következő sorozatok?

a.) $a_n = \dfrac{n^2-3n+5}{3n-5}$ b.) $b_n = \dfrac{2n-3}{n^2-5n+2}$ c.) $c_n = \dfrac{3n^2+7}{4n^2+n-6}$

d.) $d_n = \dfrac{n+5}{\sqrt{n}-5}$ e.) $e_n = \dfrac{\sqrt{2n^3+n^2-3n}}{n^2+3n-6}$ f.) $f_n = \dfrac{3n+7}{\sqrt{4n^2+n-6}}$

g.) $g_n = \dfrac{2^n+5}{3^n-5}$ h.) $h_n = \dfrac{n}{2^n} + \dfrac{n}{3^n}$ i.) $i_n = \sqrt{n+1} - \sqrt{n}$

j.) $j_n = \dfrac{n^6+5n^2+13}{3^n+n^2+6}$ k.) $k_n = \sqrt{n^2+2n} - \sqrt{n^2+5}$

l.) $l_n = \sqrt{n^4+3n^2+5} - \sqrt{n^4-4n+2}$

m.) $m_n = \dfrac{\sqrt{n+\sqrt{n+\sqrt{n}}}}{\sqrt{n+1}}$ n.) $n_n = \dfrac{n!}{n!+(n+1)!}$

o.) $o_n = \dfrac{\sqrt{n^3+4n^2}+\sqrt[3]{n^4-2}}{\sqrt[4]{5n^6+4}+\sqrt{n^7+4n^3}}$ p.) $p_n = \dfrac{\sqrt{n^6+n-1}+\sqrt[3]{n-2}}{\sqrt[3]{n^4-2n+1}+\sqrt{n+3}}$

q.) $q_n = (-1)^n$ r.) $r_n = \dfrac{(-1)^n}{n}$ s.) $s_n = 1 + (-1)^n \dfrac{n}{n+1}$

t.) $t_n = \dfrac{\sin(n!)}{n}$ u.) $u_n = \dfrac{2^n}{3^n+n} \sin \dfrac{1}{n}$

HF Gyakorolni a ZH-ra!