ESERCIZIO 1: Calcolare il limite per $n \to +\infty$ delle seguenti successioni:

$\{a_n\}_{n\in N} = \left\{\left(\frac{n^2}{5n+n^2+3}\right)\right\}_{n\in N}$	$\{b_n\}_{n\in N} = \left\{2n^2 \ln\left(1+\frac{1}{n^2}\right)\right\}_{n\in N}$
$\{a_n\}_{n\in N} = \left\{\left(\frac{n+2}{n^3+4}+1\right)\right\}_{n\in N}$	$\{a_n\}_{n\in N} = \left\{\ln\left(\frac{5n+3n^2}{1+2n}\right)\right\}_{n\in N}$
$\{a_n\}_{n\in N} = \left\{\left(\frac{4^{n+1}-1}{3^n}\right)\right\}_{n\in N}$	$\{b_n\}_{n\in N} = \left\{\left(\frac{1}{3}\right)^{\frac{3n^2+4}{1+n}}\right\}_{n\in N}$
$\{a_n\}_{n\in N} = \left\{\left(\frac{3+2^n}{3^n}\right)\right\}_{n\in N}$	$\{b_n\}_{n\in N} = \left\{\left(1+\frac{7}{n^2}\right)^{5n^2}\right\}_{n\in N}$ **(*)**
$\{a_n\}_{n\in N} = \left\{\left(\frac{3+3^n}{5^n}\right)\right\}_{n\in N}$	$\{b_n\}_{n\in N} = \left\{\left(1+\frac{1}{2+n}\right)^{3n}\right\}_{n\in N}$ (*)
$\{a_n\}_{n\in N} = \{\ln(n^2-3)-\ln(1+n^2)\}_{n\in N}$	$\{b_n\}_{n\in N} = \left\{\frac{3n^2+2n-5}{3-n}\right\}_{n\in N}$
$\{a_n\}_{n\in N} = \left\{\ln\left(\frac{5-3n}{2-n}\right)\right\}_{n\in N}$	$\{b_n\}_{n\in N} = \left\{\frac{5+2n}{1+2n+n^2}\right\}_{n\in N}$
$\{a_n\}_{n\in N} = \left\{\left(\frac{-3^n+1}{6^{n+1}}\right)\right\}_{n\in N}$	$\{b_n\}_{n\in N} = \left\{\frac{n^2+n+1}{(n+1)^2}\right\}_{n\in N}$
$\{a_n\}_{n\in N} = \left\{\left(\frac{2^{2n}+1}{3^n}\right)\right\}_{n\in N}$	$\{b_n\}_{n\in N} = \left\{\frac{n}{n-1}+\frac{5n^2-4}{6n+2}\right\}_{n\in N}$
$\{a_n\}_{n\in N} = \left\{\left(\frac{n+1}{n}\right)^n\right\}_{n\in N}$	$\{b_n\}_{n\in N} = \left\{\frac{n^2-6n+1}{6n^3-4n+2}\right\}_{n\in N}$
$\{a_n\}_{n\in N} = \left\{\left(\frac{n}{n-1}\right)^n\right\}_{n\in N}$ (**)	

ESERCIZIO 2: Calcolare i seguenti limiti:

$\lim_{n\to+\infty} \frac{n^3-1}{(n+1)(n^2+2n)}$	$\lim_{n\to+\infty} \left(\frac{1}{5}\right)^{\frac{2n-1}{3-n}}$
$\lim_{n\to+\infty} \frac{n}{n^3+2n}$	$\lim_{n\to+\infty} \frac{3n^2+5}{n^2-2n+1}$
$\lim_{n\to+\infty} \frac{n^2-4n^3}{2+n^3}$	$\lim_{n\to+\infty} n\ln\left(1+\frac{2}{n^3}\right)^{n^2}$
$\lim_{n\to+\infty} \frac{5^{n-2}+4}{4^{2n}}$	$\lim_{n\to+\infty} e^{-n+1}$
$\lim_{n\to+\infty} \frac{2^n-4}{3^{n+1}}$	