

Math 17A  
Kouba  
Epsilon,N Proof Worksheet

Determine the limit of each sequence. Then PROVE that the limit is true with an  $\epsilon, N$  proof.

1.)  $\lim_{n \rightarrow \infty} \frac{500}{n^3 + 2}$

2.)  $\lim_{n \rightarrow \infty} \frac{2n + 3}{n - 10}$

3.)  $\lim_{n \rightarrow \infty} \frac{3n + 2}{5 - 4n}$

4.)  $\lim_{n \rightarrow \infty} \frac{\sqrt{n} + 2}{4 - \sqrt{n}}$

5.)  $\lim_{n \rightarrow \infty} (0.999)^n$