

Math 21C  
Kouba  
Worksheet 1

1.) Use the precise definition of the limit of a sequence to prove each of the following statements.

a.)  $\lim_{n \rightarrow \infty} \frac{1}{n+5} = 0$

b.)  $\lim_{n \rightarrow \infty} \frac{3}{\sqrt{n+2}} = 0$

c.)  $\lim_{n \rightarrow \infty} \frac{n+3}{1-n} = -1$

d.)  $\lim_{n \rightarrow \infty} (0.9)^n = 0$

e.)  $\lim_{n \rightarrow \infty} 3(0.25)^{n-2} = 0$