Problems for Lecture 1

January 14, 2015

1. Using the ϵ-definition of a limit, prove that

$$\lim_{n\to\infty} \frac{2}{\sqrt{n+3}} = 0.$$

2. Using the ϵ-definition of a limit, prove that

$$\lim_{n\to\infty} \frac{3n+1}{2n+5} = \frac{3}{2}.$$

3. Using the ϵ-definition of a limit, prove that

$$\lim_{n\to\infty} \frac{10}{(n+1)(n+2)(n+3)} = 0.$$