

### Homework 5: Due Friday, May 6th

(1) Using the definition of limit, prove that

$$\lim_{n \rightarrow \infty} \frac{2n + 3}{n - 1} = 2.$$

(2) Prove that if  $\lim_{n \rightarrow \infty} a_n = a$ , then  $\lim_{n \rightarrow \infty} 5 \cdot a_n = 5 \cdot a$ .

(3) Exercise 3.6.13

(4) Exercise 3.6.15