MATH310 Homework 2022-08-08
Due Gradescope 11:59pm 2022-08-10

1. Prove that: [30 pts]
$$\left\{\frac{3}{n+100}\right\} \longrightarrow 0$$

2. Prove that: [30 pts]
$$\left\{\frac{6n-2}{12n+10}\right\} \longrightarrow \frac{1}{2}$$

3. Prove that: [30 pts]
$$\left\{\frac{2}{3^n+1}\right\} \longrightarrow 0$$

4. Give an example of two sequences $\{a_n\}$ and $\{b_n\}$ which are not negations of one another such that neither converges but the sum does. Proofs of claims not necessary! [10 pts]