Math 2B Worksheet: 11.1 Sequences

Write your names and Student ID numbers at the top of the page
Determine whether the sequence $\{a_n\}$ converges for the following and find the limit.

1. $a_n = 3^n 7^{-n}$

2. $a_n = 2 + (0.86)^n$

3. $a_n = \dfrac{\tan^{-1} n}{n}$

4. $a_n = \dfrac{3 + 5n^2}{n + n^2}$

5. $a_n = \ln(n+1) - \ln n$

6. $a_n = \dfrac{n^2}{\sqrt{n^3 + 4n}}$

7. $a_n = \dfrac{(-3)^n}{n!}$

8. $a_n = \sqrt[n]{n}$