

Written HW15 – MATH 2502 Fall 2021

Due by 8 October for timely completion credit

Write out the first three terms of the sequence. Each sequence starts at $n = 1$.

Find the limit of the sequence or provide an argument (identify why: whether it “blows up” or it “oscillates”) of why the limit does not exist.

1. $a_n = \frac{3n^3 + 2n^2 + n + 1}{150n^2 + n - 2}$

2. $a_n = \frac{(-1)^n}{3n^2 + 2n + 1}$

3. $a_n = \frac{\cos(2\pi n)}{(-1)^n}$