

EMT 121 - Worksheet VII

Sequences

April 28, 2010

1. Write down the first few terms of

(a) $\left\{ \frac{n+1}{n^2} \right\}_{n=1}^{\infty}$

(b) $\left\{ \frac{(-1)^{n+1}}{2^n} \right\}_{n=0}^{\infty}$

2. Find the sum of the first 1001 terms of the following arithmetic sequence.
0, 20, 40, 60, 80, ...

3. Determine if the following sequences converge or diverge. If the sequence converges determine its limit.

(a) $\left\{ \frac{3n^2-1}{10n+5n^2} \right\}_{n=1}^{\infty}$

(b) $\left\{ \frac{e^{2n}}{n} \right\}_{n=1}^{\infty}$

(c) $\left\{ \frac{(-1)^n}{n} \right\}_{n=1}^{\infty}$

(d) $\{(-1)^n\}_{n=0}^{\infty}$