Pencils and Erasers Only – No Calculators Allowed.

1. For each of the following, state whether the given series converges. Give reasons. Show necessary computations.

   (a) \[ \sum_{n=1}^{\infty} \frac{2 + (-1)^n}{n^2} \]

   (b) \[ \sum_{n=1}^{\infty} \frac{2 + (-1)^n}{n} \]

   (c) \[ \sum_{k=5}^{\infty} \frac{k - 3}{\sqrt[3]{k^8 - 37}} \]