King Fahd University of Petroleum & Minerals
Department of Mathematics and Statistics
(Semester 152) Math 102 Quiz # 5

Name: _____ I.D. # _____ Sr. # ___

1. If it converges, find the sum of the series $\frac{1}{3}-\frac{2}{9}+\frac{1}{27}-\frac{2}{81}+\frac{1}{243}-\frac{2}{729}+\cdots$
2. If it converges, find the sum of the series $\sum_{n=1}^{\infty}\frac{3}{n(n+3)}$
3. Use the integral test to determine whether the series $\sum_{n=2}^{\infty}\frac{1}{n\,(\ln n)^2}$ converges or diverges.

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1. Express the number as a ratio of integers $1.2\overline{13}\equiv 1.213131313...$
2. If it converges, find the sum of the series $\sum_{n=1}^{\infty}\frac{3}{n(n+3)}$
3. Use the integral test to determine whether the series $\sum_{n=1}^{\infty}\frac{n}{n^4+1}$ converges or diverges.