



Handout 8

MATH 172 Lab: Sections 7 and 8

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Student's Name:-----

Student's ID:-----

Note: This handout covers 6 different convergence tests.

Instruction: Work in groups to solve the following mathematical problems. DON'T AFRAID TO MAKE MISTAKES BECAUSE WE LEARN FROM OUR MISTAKES!

Problem 1: Investigate the sequence: $\sum_{n=1}^{\infty} n \sin\left(\frac{1}{n}\right)$.

Problem 2: Investigate the sequence: $\sum_{n=1}^{\infty} (1 + n)^{\frac{1}{n}}$.

Problem 3: Investigate the sequence: $\sum_{n=1}^{\infty} \frac{\ln(n)}{n^2}$.

Problem 4: Investigate the sequence: $\sum_{n=1}^{\infty} \frac{2n^2+3n}{\sqrt{5+n^2}}$.

Problem 5: Investigate the sequence: $\sum_{n=1}^{\infty} \frac{(2n)!}{n!n!}$.

Problem 6: Investigate the sequence: $\sum_{n=1}^{\infty} \frac{n^n}{n!}$.

Problem 7: Investigate the sequence: $\sum_{n=1}^{\infty} \frac{n^n}{3^{(1+3n)}}$.

Good Luck in "Practice with Series" Lab. Remember: there will be a question in exam 3 from this lab
Best Regards,
Mohammed Kaabar