Math 132: Discussion Session: Week 12

Directions: In groups of 3-4 students, work the problems on the following page. Below, list the members of your group and your answers to the specified questions. Turn **this paper** in at the end of class. You do not need to turn in the question page or your work.

Additional Instructions: It is okay if you do not completely finish all of the problems. Also, each group member should work through each problem, as similar problems may appear on the exam.

Scoring:

Correct answers	Grade
0–2	0%
3–4	80%
5–10	100%

Group Members:

11.2: Series.

(1) (a) $\displaystyle\sum_{n=1}^{\infty} \frac{2 \cdot 3^n}{(-4)^n} =$

(b) $\displaystyle\sum_{n=1}^{\infty} \left(e^{1/n} - e^{1/(n+1)}\right) =$

(c) $\displaystyle\sum_{n=1}^{\infty} \frac{6 \cdot 2^{2n-1}}{3^n} =$

(d) $\displaystyle\sum_{n=1}^{\infty} (\sin 100)^n =$

(e) $\displaystyle\sum_{n=1}^{\infty} \frac{n+2}{2n+5} =$

(f) $\displaystyle\sum_{n=2}^{\infty} \frac{3^n + n}{2^n + 4} =$

(2) (a) $\displaystyle\sum_{n=1}^{\infty} (-5)^n x^n =$

- converges whenever x is strictly between $\square$ and $\square$.

(b) $\displaystyle\sum_{n=0}^{\infty} \frac{(x-2)^n}{3^n}$

- converges whenever x is strictly between $\square$ and $\square$.

11.3: Integral Test.

(1) $\displaystyle\sum_{n=1}^{\infty} \frac{1}{(n^2+2)^{\frac{3}{5}}}$

- Test used? What are the conditions for using that test?

(2) For which values of p does $\displaystyle\sum_{n=2}^{\infty} \frac{n^2}{(n^3+1)^p}$ converge?

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11.2: Series.

(1) Determine whether the series converges or diverges. If it converges, determine its value.

(a) $\displaystyle\sum_{n=1}^{\infty} \frac{2 \cdot 3^n}{(-4)^n}$

(b) $\displaystyle\sum_{n=1}^{\infty} \left(e^{1/n} - e^{1/(n+1)}\right)$

(c) $\displaystyle\sum_{n=1}^{\infty} \frac{6 \cdot 2^{2n-1}}{3^n}$

(d) $\displaystyle\sum_{n=1}^{\infty} (\sin 100)^n$

(e) $\displaystyle\sum_{n=1}^{\infty} \frac{n+2}{2n+5}$

(f) $\displaystyle\sum_{n=2}^{\infty} \frac{3^n + n}{2^n + 4}$

(2) Find the values of x for which the series converges. Determine the value of the series for those values of x.

(a) $\displaystyle\sum_{n=1}^{\infty} (-5)^n x^n$

(b) $\displaystyle\sum_{n=0}^{\infty} \frac{(x-2)^n}{3^n}$

11.3: Integral Test.

(1) Determine whether the series $\displaystyle\sum_{n=1}^{\infty} \frac{1}{(n^2+2)^{\frac{3}{5}}}$ converges or diverges. State any tests used and show that all conditions of the test are satisfied.

(2) For which values of p does $\displaystyle\sum_{n=2}^{\infty} \frac{n^2}{(n^3+1)^p}$ converge?