

Math 222, Quiz 5

Name:

Circle one: 11:00

12:05

Instructions: Do all of the following problems, showing work if necessary. Please circle your answer.

1) State whether the following sum converges or diverges. If it converges, find its sum.

$$\sum_{k=2}^{\infty} \left(\frac{3}{7}\right)^k$$

You should immediately recognize this as a geometric series. However, the first two terms are missing (the series starts with $\frac{3^2}{7}$). The series converges to $\frac{9}{28}$.

2) Determine whether the following sums converges or diverges.

a) $\sum_{k=1}^{\infty} \frac{-2}{\sqrt{k+2}}$

This series diverges. Do a comparison to $\frac{1}{\sqrt{k}}$.

b) $\sum_{n=1}^{\infty} \frac{\sqrt{n}}{n^2+1}$

This series converges. Do a comparison to $\frac{1}{n^{\frac{3}{2}}}$

Bonus (1 pt): Who was the Baron Administrator of Cloud City?

Lando Calrissian