

MATH 152
Mrs. Bonny Tighe

QUIZ 8A

25 points
12.7, 12.8

NAME _____

Section _____ Wed 11/9/05

Test each of the series for convergence or divergence.

State and use the Integral Test

a) $\sum_{n=1}^{\infty} \frac{\ln n}{n^2}$

State and use the Ratio Test

b) $\sum_{n=1}^{\infty} \frac{5^n}{n!(n+1)}$

State and use the Comparison Test.

c) $\sum_{n=2}^{\infty} \frac{\cos \pi n}{n^2 + n}$

State and use the Alternating Series Test

d) $\sum_{n=1}^{\infty} \frac{(-1)^{n+1}}{\sqrt{n+2}}$

2. Find the radius of convergence and the interval of convergence for each of the given power series.

a) $\sum_{n=0}^{\infty} \frac{(-1)^n x^n}{n \ln n}$

b) $\sum_{n=0}^{\infty} \frac{\left(\frac{x}{3}\right)^n}{n!}$

c) $\sum_{n=0}^{\infty} \frac{(2x+1)^n}{n+1}$

d) $\sum_{n=0}^{\infty} \frac{3^n (x+2)^n}{1 \cdot 4 \cdot 7 \cdot 10 \cdots (3n-2)}$