

MATH 152
Mrs. Bonny Tighe

QUIZ 8A
25 points
12.7, 12.8

NAME _____

Section _____ Wed 4/17/06

1. Test each of the series for convergence or divergence. Show each test being used.

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

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

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

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

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

f) $\sum_{n=1}^{\infty} \left(\frac{2n}{n+3} \right)^n$

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