

Math 166: Honors Calculus II

Name: _____

Quiz 10 Apr. 27, 1995

1. a) Determine whether the series $\sum_{n=1}^{\infty} \frac{(-1)^n n^2}{(n+1)!}$ is absolutely convergent, conditionally convergent, or divergent.

- b) Describe the set of real numbers x for which the series $\sum_{n=1}^{\infty} \frac{(-1)^n x^{2n}}{n3^n}$ converges.

2. Compute the integral, if possible, or test it for convergence.

a) $\int_1^{\infty} \frac{\log(x)}{x^2} dx$ (Hint: $u = 1/x$)

b) $\int_{-1}^1 \frac{1}{x^4} dx$

c) $\int_0^{\infty} e^{-x^2} dx$