

Calculus II. Quiz 8. Name \_\_\_\_\_ Time \_\_\_\_\_

Show all work for full or partial credit. Put a box around your final answer in each part.

1. For each power series, determine the interval of convergence and the radius of convergence.

(a) 
$$\sum_{n=1}^{\infty} \frac{2(x-1)^n}{n3^n}$$

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

2. Find a power series which converges to the following functions, in the form  $\sum_{n=k}^{\infty} a_n x^n$  where  $k \geq 0$ .

(a) 
$$f(x) = \frac{x^3}{(1-x)^2}$$

(b) 
$$f(x) = e^{2x}$$