

Name: \_\_\_\_\_

**SOLVE ONE SIDE OF THE FOLLOWING:**

Please indicate which side you do NOT want me to grade by putting an X through it, otherwise I will grade the first side worked on:

Show all work clearly and in order. Please box your answers.

1. Using the formula, set up a table and find the first FOUR nonzero terms of the Maclaurin series for

$$f(x) = \frac{1}{1+2x} = (1+2x)^{-1}.$$

2. Using the formula, set up a table and find the first TWO nonzero terms of the Taylor series about  $x_0 = 1$  for

$$f(x) = \sin\left(\frac{\pi}{2}x\right).$$

3. Find the radius and interval of convergence for the power series

$$\sum_{n=1}^{\infty} \frac{(x-9)^n}{n}$$