

AP Calc Quiz 9.8

Name:

Block:

Seat:

1. Find the Maclaurin polynomial of degree 3 for the function $f(x) = e^{3x}$

2. Find the radius and interval of convergence for

$$\sum_{n=0}^{\infty} \left(\frac{x}{7}\right)^n$$

Remember to check the endpoints of the interval

3. Find the radius and interval of convergence for

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

Remember to check the endpoints of the interval

4. Bonus: Consider

$$f(x) = \sum_{n=0}^{\infty} \frac{(-1)^{n+1} (x-3)^{n+1}}{n+1}$$

- (a) Find the interval of convergence of $\int f(x)dx$