

Name:

Section: 11 12 13

1. Find the Taylor polynomial of order 2 centered at $a = 8$ for $f(x) = x^{2/3}$.

2. Find a power series representation for $f(x) = 2^x$ by making the appropriate substitution in the Maclaurin series for e^x ,

$$e^x = 1 + x + \frac{x^2}{2!} + \frac{x^3}{3!} + \cdots = \sum_{n=0}^{\infty} \frac{x^n}{n!}.$$

3. Find the Maclaurin series for $f(x) = 2^x$ using the definition of a Maclaurin series.