

Name \_\_\_\_\_

Homework 19  
section 10.1

1. (7) Find the degree 10 Taylor polynomial approximating  $f(x) = \cosh x$  near  $x = 0$ .

2. (8) Construct the Taylor polynomial of degree 3 approximating  $f(x) = xe^{2x}$  near  $x = 0$ .

3. (5) Consider the function  $f(x) = x^3 + 2x^2 - 4x - 1$

(a) Find the third-degree Taylor polynomial for  $f(x)$  about  $x = 1$ . Your answer should be in the form  $a + bx + cx^2 + dx^3$ .

(b) What is  $P_5(x)$  for this function?  $P_2(x)$ ?