MATH 152 Assignment 7, Fall 2022.

Michael Monagan

Webassign Exercises

11.7 Exercises 1, 3, 11

11.8 Exercises 5, 6, 14, 17

11.9 Exercises 5, 17, 27

11.10 Exercises 6, 12, 21, 37, 61

Written Exercises

Answers to odd numbered exercises below are in the back of the textbook. Show your working.

  1 11.7 Exercise 12.

  2 11.7 Exercise 26.

  3 11.8 Exercise 9.

  4 11.9 Exercise 11

  5 11.9 Exercise 29. See Example 8 in the textbook.

  6 11.10 Use multiplication of power series to find the first four non-zero terms in the Maclaurin series for $y = (1 + x)\ln(1 + x)$ and $y = e^{-x}\cos x$. See Example 13. Use Table 1 on page 768 for the series for e^x, $\ln(1 + x)$ and $\cos x$.

  7 11.10 Use series division to calculate the Taylor polynomial $T_4(x)$ for

$$f(x) = \frac{x}{\sin x} \quad \text{and} \quad g(x) = \frac{\cos x}{1 - x^2}.$$

See Example 13. Use Table 1 on page 768 for the series for $\sin x$ and $\cos x$.