

Name: \_\_\_\_\_  
Student ID: \_\_\_\_\_

## Quiz 12

This quiz is graded out of 10 marks. No books, calculators, notes or cell phones are allowed. You must show all your work, the correct answer is worth 1 mark the remaining marks are given for the work. If you need more space for your answer use the back of the page.

**Question 1.** (5 marks) §8.7 #7 Find the Maclaurin series for  $f(x) = e^{5x}$ . Assume that  $f$  has a power series expansion. Do not show that  $R_n \rightarrow 0$ .

**Question 2.** (5 marks) §8.7 #15 Find the Taylor series for  $f(x) = \sin x$  centered at  $x = \pi/2$ . Assume that  $f$  has a power series expansion. Do not show that  $R_n \rightarrow 0$ .