

MATH 133 – Calculus with Fundamentals 1  
Quiz 5 – October 27, 2017

Your Name: \_\_\_\_\_

*Directions*

Do all work on this sheet. There are 30 possible points.

1) Use the “short-cut” rules to find the derivatives of the following functions:

(a) (10)  $f(x) = 3x^{11} - 4\sqrt{x} + 4e^x$

(b) (10)  $g(x) = (x^2 + 3x)(x + 7)$  (Hint: You do not need the product rule for this, but you can use it if you want!)

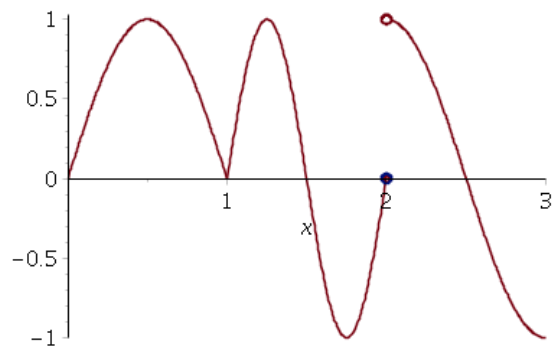


Figure 1: The Graph  $y = f(x)$  for question 2.

2) By examining the graph answer these questions.

(a) (5) Is  $f(x)$  differentiable at  $x = 1$ ? \_\_\_\_\_ (Y/N) Why or why not?

(b) (5) Is  $f(x)$  differentiable at  $x = 2$ ? \_\_\_\_\_ (Y/N) Why or why not?