QUEEN'S UNIVERSITY
APSC 171J – Assignment 1
Wesley Burr
Due: January 17, 2013

INSTRUCTIONS

- This assignment is due in-class (4:30-5:20pm) Thursday, January 17

- Answer all questions, writing clearly on the sheets provided. **You must print this file and hand in a carefully stapled copy!** Unstapled assignments will not be accepted.

- One mark in each question is for **complete** (and mostly correct) work shown

- The second mark is for a **fully** correct solution, which **must** be placed in the box provided

- Whenever possible, simplify your solution.

- There are no part marks: you will receive 0, 1 or 2 on each question.

- Future assignments will contain more problems (and correspondingly more overall marks), but due to the timing of the first week of the compressed term, this assignment has only five problems on it.

FOR INSTRUCTOR'S USE ONLY		
Question	Mark Available	Received
1	2	
2	2	
3	2	
4	2	
5	2	
TOTAL	10	

1.   [2 marks] Find $\dfrac{dy}{dx}$ for

$$y = [1 + 2xe^x]^4$$

using careful application of the Chain Rule, Product Rule and Power Rule.

Final Answer:

2. [2 marks] Find $\dfrac{dy}{dx}$ for

$$y = x \cdot \sin\left(e^{x^2+x}\right)$$

using careful application of the Chain Rule, Product Rule and Power Rule.

Final Answer:

3. [2 marks] Find $\dfrac{dy}{dx}$ for

$$y = \cos\left(\csc(x^2)\right)$$

remembering to apply the Chain Rule as many times as necessary.

Final Answer:

4.   [2 marks] Find $\dfrac{dy}{dx}$ for

$$y = \ln\left(\frac{x^2 - 4}{2x + 5}\right) \text{ for } x > 2.$$

Final Answer:

5.   [2 marks] Find $\dfrac{dy}{dx}$ for

$$y(x) = \cot(x) = \frac{\cos(x)}{\sin(x)}.$$

by using the Quotient Rule and the identity provided. Simplify your answer.

Final Answer: