

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

## Quiz 1

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.** (1 mark each) Differentiate the following functions:

a.

$$f(x) = \frac{1}{x^{8/7}}$$

b.

$$f(x) = \cos x$$

c.

$$f(x) = \tan x$$

d.

$$f(x) = e^x$$

e.

$$f(x) = \csc x$$

f.

$$f(x) = \arcsin x$$

**Question 2.** (2 marks each) Differentiate the following functions (*do not simplify*):

a.

$$f(x) = (\arctan x)(\operatorname{arcsec} \ln x)$$

b.

$$f(x) = \left( \frac{\tan 3x}{\csc 2x} \right)^2$$