

Name: \_\_\_\_\_ Student Number: \_\_\_\_\_

Department: \_\_\_\_\_ Signature: \_\_\_\_\_

**Question 1.**(3 pts) Differentiate  $f(x) = \ln(\ln(x^2))$ .

**Question 2.**(7 pts) Find

$$\lim_{x \rightarrow 0} \frac{e^x + e^{-x} - 2}{e^x - x - 1}.$$