

**Handout 5****Extra Credit****MATH 140 Lab: Section 1****Lab Instructor (TA): Mohammed Kaabar**

Student's Name:-----

Student's ID:-----

*Note: This handout covers the applications of exponential and logarithmic functions.***Problem 1:** Find  $\lim_{n \rightarrow 0} \left( n^2 \sin\left(\frac{\pi}{n}\right) \right)$ .**Problem 2:** Find  $\lim_{k \rightarrow 0} \left( \frac{3k^2 + \sin(2k)}{k} \right)$ .**Problem 3:** Find  $\lim_{m \rightarrow 2} \frac{|m-2|}{4-2m}$ .