

Worksheet 5

ALL work must be shown for solutions of problems submitted for group classwork.

PART I - Sections 4.4 & 4.7

Section 4.4

Problem 1. Find the following limits. Some can have L'Hopital's Rule applied, but not all.

$$(a) \lim_{x \rightarrow 0} \frac{x8^x}{8^x - 1} \quad (b) \lim_{x \rightarrow 0} \frac{\cos(x)}{x} \quad (c) \lim_{x \rightarrow -\infty} xe^x.$$

Section 4.7

Problem 2. A rectangular storage container without a lid is to have a volume of 10 m^3 . The length of its base is twice the width. Material for the base costs \$10 per square meter. Material for the sides costs \$ 6 per square meter. Find the cost of materials for the **least expensive** such container.