Handout 6

MATH 172 Lab: Sections 7 and 8

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Student's Name:--

Student's ID:-------------------------

Note: This handout covers only <u>partial fractions</u> and <u>improper integrals</u>.

Instruction: Work in groups to solve the following mathematical problems. <u>DON'T AFRAID TO MAKE MISTAKES BECAUSE WE LEARN FROM OUR MISTAKES!</u>

Problem 1: Decompose $\frac{4x^2+3}{x^4+2x^3+2x^2}$ into partial fractions. Be sure to find the values of any unknown constants.

Problem 2: Compute the following improper integral by evaluating appropriate limits:

$$\int_0^\infty \frac{1}{(1+y^2)(1+\tan^{-1}y)}\,dy$$