

Name: _____

This quiz covers: 4.5, 4.6 and 4.8.

Directions: Complete all questions and **show all applicable work.** Partial credit will be given. All questions are equally weighted.

1.) Compute $\lim_{x \rightarrow \infty} \frac{x^2 - x}{e^x - 3}$

2.) Compute the antiderivative of $f(x) = 4e^{2x} + 6x^2 + 2$

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3.) What is the optimal dimensions (l,w,h) of a closed rectangular box that holds 1000 milliliters?