Homework 9

1. Evaluate the limit, using L'Hopital's Rule if necessary. .

$$\lim_{x \to \infty} (1 + x)^{\frac{1}{x}}$$

2. Find the derivative of the function.

$$f(x) = arc \sec 2x$$

3. Find or evaluate the intergral.

   (a)

   $$\int \frac{1}{\sqrt{-2x^2 + 8x + 4}} dx$$

   (b)

   $$\int_1^3 \frac{1}{\sqrt{x}(1 + x)} dx$$