

Math 120 Winter 2001 Quiz 7

**Problem 1:** In 1990 the population of BigTown was 2.5 million. Let  $P(t)$  be the population of BigTown, in million,  $t$  years after 1990.

a) Write a formula for  $P(t)$  assuming that the population grows at an annual growth rate of 11%

b) Write a formula for  $P(t)$  assuming that the population grows at a continuous rate of 11%.

c) In the continuous growth scenario, when will the population reach 5 million?

**Problem 4:** a) Put  $g(x) = \frac{\pi}{2^{\pi^7 x - 1}}$  into standard exponential form.

b) Solve the equation  $e^{\sin(2x)} = 1.2$