_____ / 10 points

Name: _____

In order to receive credit for this quiz, **all work must be shown** and legible. If you need extra space, use the back of this page and indicate that you have done so. Unsupported or otherwise mysterious answers will not receive credit. You may use a calculator. You may use your notes on this quiz.

1. The following formulas give the populations of four different towns, (which actually exist) with t in years from now.

Brilliant, Ohio	$P = 600e^{0.08t}$
Little Canada, Minneso	$ta P = 1000e^{-0.02t}$
Spuds, Florida	$P = 1200e^{0.03t}$
Okay, Oklahoma	$P = 900e^{0.12t}$

(a) Which town is growing fastest? (that is, has the largest percentage growth rate)

(b) In five years, which town will be the largest? Which town will be the smallest in ten years?

(c) Are any of the towns decreasing in size? If so, which one(s)?