Standard 2 Practice Quiz E

MA 109

Print Your Name:_____ ID:_____

Be sure that the ID number above is your correct 8-digit student ID number (without the leading 9). If this number is incorrect or not legible, it will take longer to process your score on this quiz.

This is practice for an in-class assessments on Standard 2. The only technology allowed during this quiz is a 4-function calculator. No notes or books may be used. This is an individual quiz, so any work done here must be entirely your own work.

Show all of your work. Your work will be graded on both accuracy and completeness, and partial credit is possible. You have 20 minutes to take this quiz.

Be sure to complete both the questions on this page and those on the back of this page.

1. Scientists are studying the population growth of five animals. They have been collecting data since 2010. The models they have found for the population are given in the table to the right, where x is years after 2010.

   a. Which populations are growing? **Select all that apply.**
      - ☐ A
      - ☐ B
      - ☐ C
      - ☐ D
      - ☐ E

Animal	Model
A	$19x + 146$
B	$-3x + 283$
C	$7x + 686$
D	$-20 + 532$
E	$2x + 442$

   b. Which population is growing the fastest?
      - ○ A
      - ○ B
      - ○ C
      - ○ D
      - ○ E

   c. Which population had the largest population in 2010?
      - ○ A
      - ○ B
      - ○ C
      - ○ D
      - ○ E

2. Solve the following system of equations using either substitution or elimination. Show all of your work, and write your answer as an ordered pair in the answer box below. If there are infinitely many solutions, write "infinitely many". If there is no solution, write "no solution".

$$\begin{cases} 3x + y = 2 \\ x = 10 + 2y \end{cases}$$

Answer:

3. Suppose $g(x) = x^2 + 3x - 7$. Find the average rate of change of $g(x)$ on $[2, 2 + h]$. Show all of your work. Simplify your answer and write it in the answer box below.

Answer: