

## MATH 54 – QUIZ 1

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Name: \_\_\_\_\_

**Instructions:** You have 20 minutes to take this quiz, for a total of 10 points. Good luck, and don't worry, everything will be fine.

1. (5 points) Assume the following assertions are true:

“There are planets in the universe”

“On every planet, there is an alien who thinks that all the stars are made out of whipped cream”

Which of the following assertions must necessarily be true?

- (a) There is a planet on which every alien believes no stars are made out of whipped cream.
- (b) There are no planets on which every alien believes no stars are made out of whipped cream.
- (c) There is no planet on which every alien does not believe some stars are made out of whipped cream.
- (d) There is a planet on which there is an alien who believes all all stars are made out of whipped cream.
- (e) There is a planet on which every alien believes some star is made out of whipped cream.

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Date: Friday, August 23rd, 2014.

2. (5 points) For which numbers  $a, b, c, d$  is the following matrix in Row-echelon form or Reduced row-echelon form?

$$\begin{bmatrix} 1 & b & c \\ 0 & a & b \\ 0 & 0 & a \end{bmatrix}$$

Row-echelon form:

Reduced row-echelon form: