
Saturday, September 19th by 11:59pm

Directions. When uploading your written homework, it is EXTREMELY important that you have your pages for each problem in the correct order and rotated properly! Otherwise, it will receive a score of 0. You should always check your submission using a computer. Be sure that separate questions are on separate pages.

Question 1 (10 points) *The percent of households with Internet use at home as been growing steadily, as shown by the following table. (Source: U.S. Census Bureau) (Lial, Greenwell, Ritchey, 10th Edition)*

<i>Year</i>	<i>Percent of Households</i>
2000	41.5
2003	54.7
2007	61.7
2009	68.7
2012	74.8

(a) *Obtain the least-squares line that best fits these data. You can use either a TI-calculator or excel. (Let $x = 0$ correspond to 2000.)*

(b) *Based on your answer to part (a), what rate is the percent of households with Internet use at home growing per year?*

(c) *If this trend continues, predict the percent of households with Internet use at home in the year 2022?*

Assignment 1

Name: _____

Question 2 (10 points each) Solve each of the following systems of linear equations by the Gauss-Jordan elimination method using matrix. Show all your steps. No calculators.

$$\begin{aligned} & x + 5z = -6 + y \\ (a) \quad & 3x + 3y = 10 + z \\ & x + 3y + 2z = 5 \end{aligned}$$

$$\begin{aligned} & x + y + z = 1 \\ (b) \quad & 3x - y - z = 4 \\ & x + 5y + 5z = -1 \end{aligned}$$

Question 3 (8 points) Given the following systems of linear equations.

$$\begin{aligned}x + 2y + 3z - w &= 4 \\2x + 3y + w &= -3 \\3x + 5y + 3z &= 1\end{aligned}$$

(a) (4 points) Write the initial and final augmented matrices using the RREF command on your TI-calculators.

(b) (4 points) Write the general solution of the system based on the final matrix in part (a).