

GEORGIA TECH

SCHOOL OF MATHEMATICS

MATH 1502

CALCULUS II, SECTION D

Quiz # 8

October 21, 2009

First Name : -----

Last Name : -----

1. Let C be a 2×2 matrix such that $C \begin{bmatrix} 1 \\ 2 \end{bmatrix} = \begin{bmatrix} 2 \\ 1 \end{bmatrix}$ and

$$C^2 \begin{bmatrix} 1 \\ 2 \end{bmatrix} = \begin{bmatrix} -1 \\ 1 \end{bmatrix}. \text{ Compute } C$$

(Hint : use the first relation to simplify the other)

(Give the result here)

$$C =$$

2. Find the intersection of the two lines $x - 3y = 1$ and $4x + y = -1$.

$$x = \qquad \qquad \qquad y =$$

3. Let the following system of equations be considered

$$\begin{aligned}x_1 + x_2 - x_3 + 2x_4 &= 1 \\-x_1 - x_2 - 2x_3 + 3x_4 &= -1 \\x_1 + x_2 - 4x_3 + 7x_4 &= 1 \\x_1 + x_2 + 2x_3 + x_4 &= 0\end{aligned}$$

- (a) Give the augmented matrix of this system

$$[A|\mathbf{b}] =$$

(b) Compute the reduced form of the of the augmented matrix of this system

(Give the result here and use the back pages for your calculations)

Reduced form :=

(c) give a one-to-one parametrization of the solution set

Solution set :=

Use this space below and the last page for your calculations

Use this page for your calculations