

MAC1140 SEC29 HW 11-09-2007 10.5

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Due: 11-14-2007

Full Name:

Sec#:

Extra Credit Attempted?

1.

[10.5.1aPT] Find $AB - \frac{1}{2}C$ if

$$A = \begin{pmatrix} -2 & -3 & -1 \\ -1 & 0 & -5 \end{pmatrix} \quad B = \begin{pmatrix} 1 & -2 \\ -3 & 0 \\ -1 & 3 \end{pmatrix} \quad C = \begin{pmatrix} 0 & -8 \\ 2 & -4 \end{pmatrix}$$

$\begin{pmatrix} 8 & 5 \\ 3 & -11 \end{pmatrix}$

$\begin{pmatrix} 8 & 8 \\ 0 & -11 \end{pmatrix}$

$\begin{pmatrix} 8 & 0 \\ 0 & -15 \end{pmatrix}$

$\begin{pmatrix} 8 & -3 \\ 3 & -15 \end{pmatrix}$

2.

[10.5.1bPT] Find the matrix product ABC if

$$A = \begin{pmatrix} 1 & 0 & 1 \\ -1 & 1 & 1 \end{pmatrix} \quad B = \begin{pmatrix} 1 & -1 \\ -1 & -1 \\ 1 & -1 \end{pmatrix} \quad C = \begin{pmatrix} 1 & -2 \\ 2 & 1 \end{pmatrix}$$

$\begin{pmatrix} 1 & -2 \\ -8 & 1 \end{pmatrix}$

$\begin{pmatrix} -3 & -4 \\ 0 & 5 \end{pmatrix}$

$\begin{pmatrix} -2 & -6 \\ -3 & 1 \end{pmatrix}$

$\begin{pmatrix} -4 & -2 \\ -5 & 5 \end{pmatrix}$

3.

[10.5.2c1PT]Select the entry in the first row and first column of the inverse matrix for

$$\begin{pmatrix} 2 & 1 \\ 1 & 1 \end{pmatrix}$$

- 3
- 1
- 1
- 2
- None of these

4.

[10.5.2dPT]Find y in the solution of the system

$$\begin{cases} a_1x + b_1y = 1 \\ a_2x + b_2y = -\frac{2}{3} \end{cases}$$

if the inverse of the matrix $\begin{bmatrix} a_1 & b_1 \\ a_2 & b_2 \end{bmatrix}$ is $\begin{bmatrix} -\frac{1}{3} & -1 \\ -\frac{1}{2} & -3 \end{bmatrix}$

- $\frac{3}{2}$
- 0
- 1
- $\frac{1}{3}$

5.

[10.5.2aPT]Select the first row of the inverse matrix for

$$\begin{pmatrix} -1 & 2 & -3 \\ 2 & 1 & 0 \\ 4 & -2 & 5 \end{pmatrix}$$

- (-5 4 -3)
- (3 -2 2)
- (-5 -4 -3)
- (5 -4 3)

6.

[10.5.2bPT] Select the second column of the inverse matrix for

$$\begin{pmatrix} -5 & -2 & -2 \\ 2 & 1 & 0 \\ 1 & 0 & 1 \end{pmatrix}$$

$\begin{pmatrix} -2 \\ 5 \\ -2 \end{pmatrix}$

$\begin{pmatrix} 2 \\ -3 \\ -2 \end{pmatrix}$

$\begin{pmatrix} -2 \\ 3 \\ -2 \end{pmatrix}$

$\begin{pmatrix} 3 \\ -5 \\ -2 \end{pmatrix}$

7.

[10.5.2cPT] Select the entry in the first row and second column of the inverse matrix for

$$\begin{pmatrix} 1 & 0 & 2 \\ -1 & 2 & 3 \\ 1 & -1 & 0 \end{pmatrix}$$

-2

3

4

1

8.

[10.5.2ePT] Find y in the solution of the system

$$\begin{cases} a_1x + b_1y + c_1z = \frac{1}{2} \\ a_2x + b_2y + c_2z = -1 \\ a_3x + b_3y + c_3z = -\frac{1}{2} \end{cases}$$

if the inverse of the coefficient matrix $\begin{bmatrix} a_1 & b_1 & c_1 \\ a_2 & b_2 & c_2 \\ a_3 & b_3 & c_3 \end{bmatrix}$ is $\begin{bmatrix} 2 & -1 & 3 \\ \frac{1}{2} & -1 & 2 \\ -4 & \frac{1}{2} & -2 \end{bmatrix}$

- $-\frac{1}{2}$
- $-\frac{3}{2}$
- $-\frac{1}{4}$
- $\frac{1}{2}$
- $\frac{1}{4}$
- $\frac{5}{2}$

9. ANSWER THE QUESTIONS IN THE LAST HW **IN DETAILS** IF YOU HAVEN'T.