MA 162

Week 5 Recitation Worksheet (Thursday)

——

You must show all work to receive full credit.

1. For which values of x and y are the following matrices equal?

$$\begin{bmatrix} 5x + 2y & -9 \\ 0 & x - 3y \end{bmatrix} = \begin{bmatrix} 11 & -9 \\ 0 & -25 \end{bmatrix}$$

2. Define A, B and C as

$$A = \begin{bmatrix} -2 & 1 \\ 3 & 3 \\ -6 & -9 \end{bmatrix}, \quad B = \begin{bmatrix} -6 & 2 \\ -4 & -7 \\ 7 & -5 \end{bmatrix} \quad \text{and} \quad C = \begin{bmatrix} -4 & -7 & -4 \\ -8 & -5 & 5 \end{bmatrix}.$$

Determine the following matrices, if possible.

(a) $A + C$

(b) $A + B$

(c) $B + A$

3. Define A, B and C as

$$A = \begin{bmatrix} -2 & 1 \\ 3 & 3 \\ -6 & -9 \end{bmatrix}, \quad B = \begin{bmatrix} -6 & 2 \\ -4 & -7 \\ 7 & -5 \end{bmatrix} \quad \text{and} \quad C = \begin{bmatrix} -4 & -7 & -4 \\ -8 & -5 & 5 \end{bmatrix}.$$

Determine the following matrices, if possible.

(a) $A - C$

(b) $A - B$

(c) $B - A$

4. Define

$$A = \begin{bmatrix} -2 & 1 \\ 3 & 3 \\ -6 & -9 \end{bmatrix}.$$

Determine the following matrices, if possible.

(a) $0A$

(b) $4A$

(c) $-5A$

5. Define A, B and C as

$$A = \begin{bmatrix} -2 & 1 \\ 3 & 3 \\ -6 & -9 \end{bmatrix}, \quad B = \begin{bmatrix} -6 & 2 \\ -4 & -7 \\ 7 & -5 \end{bmatrix} \quad \text{and} \quad C = \begin{bmatrix} -4 & -7 & -4 \\ -8 & -5 & 5 \end{bmatrix}.$$

Determine the following matrices, if possible.

(a*) AB

(b*) AC

(c) CA