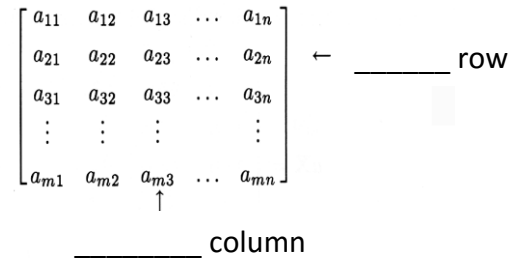


EQ:

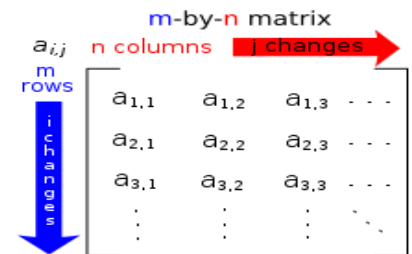
❖ Terms to Know:

• Matrix --- a rectangular _____ of numbers

• Dimensions --- measured by _____ and _____ $A =$



• Entry --- # in a _____ in a matrix



➤ What do the numbers **2,3** correspond to in the notation a_{23} ?

➤ What value is in the address a_{23} for matrix A ?

$$A = \begin{bmatrix} 1 & 3 & 5 & 9 \\ 2 & 4 & 6 & 8 \\ 7 & 11 & 13 & 15 \\ 20 & 22 & 24 & 26 \end{bmatrix}$$

❖ More Terms to Know:

• Square Matrices --- have the _____ of rows as columns; _____ x _____
_____ x _____ square matrix

• Row Matrix --- matrix with only _____ row

$$\begin{bmatrix} 2 & -3 & 0 & 4 \end{bmatrix} \quad \text{_____ x _____ matrix}$$

$$\begin{bmatrix} -2 & 4 & 7 & 31 \\ 6 & 9 & 12 & 6 \\ 12 & 11 & 0 & 1 \\ 9 & 10 & 2 & 3 \end{bmatrix}$$

• Column Matrix --- matrix with only _____ column

$$\begin{bmatrix} 2 \\ 4 \\ 5 \\ -3 \end{bmatrix} \quad \text{_____ x _____ matrix}$$

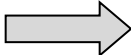
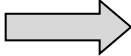
- Equal Matrices --- corresponding entries are _____

$$M = \begin{bmatrix} 2 & -3 \\ 0 & 6 \\ -1 & 5 \end{bmatrix} \quad N = \begin{bmatrix} 2 & -3 \\ 0 & 6 \\ -1 & 5 \end{bmatrix} \quad \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

Ex. 1 How can you use this property of equal matrices to solve for x and y?

$$\begin{bmatrix} 2x+4 & 5 & 1 \\ -2 & -3y+5 & -4 \end{bmatrix} = \begin{bmatrix} 12 & 5 & 1 \\ -2 & 5y-3 & -4 \end{bmatrix}$$

❖ Operations on Matrices

- Add matrices  add _____ entries
- Subtract matrices  subtract _____ entries
- Scalar Multiplication --- multiple a single number called a _____ across each entry

$$x \begin{bmatrix} a & b \\ c & d \end{bmatrix} = \begin{bmatrix} \quad & \quad \\ \quad & \quad \end{bmatrix}$$

❖ Perform the indicated operation on each set of matrices.

Ex. 2 $A = \begin{bmatrix} 2 & 1 \\ -4 & 3 \\ 2 & -2 \end{bmatrix}, B = \begin{bmatrix} 0 & 2 \\ 1 & -3 \\ 3 & -2 \end{bmatrix}$

Ex. 3 $A = \begin{bmatrix} 1 & -4 & 5 \\ 2 & 0 & -8 \end{bmatrix}, B = \begin{bmatrix} -4 & -2 & 1 \\ 0 & 1 & 5 \end{bmatrix}$
 $A - B =$

$A + B =$

Ex. 4 If $M = \begin{bmatrix} 5 & 2 & 11 \\ 9 & 4 & 14 \end{bmatrix}$, find $3M$. $3M =$

- Assignment: Practice Worksheet #12 - 17, 19, 25 - 29 (odd), 30, 33, 35, 36, 39, 42, 43, 45, 46, 50 - 62