MATHEMATICS ASSIGNMENT FOR ALL LEVEL 3

1. A= $\begin{pmatrix} X+Y & 4 \\ 6 & 2Z-1 \end{pmatrix}$ and B= $\begin{pmatrix} 9 & 4 \\ 6 & 11 \end{pmatrix}$ A=B Find X,Y and Z
   Find A+B and A-B
2. A= $\begin{pmatrix} X-4 & 7 \\ 3Y & 3 \end{pmatrix}$ and B= $\begin{pmatrix} 6 & 7 \\ 10 & 3 \end{pmatrix}$ A=B Find X and Y
   Find B+A and B-A
3. Find A+B and B-A

I.

$$A=\begin{pmatrix} -1 & -2 & -3 \\ 2 & 1 & 3 \\ 1 & 2 & 0 \end{pmatrix},\ B=\begin{pmatrix} -7 & 2 & 3 \\ 0 & 1 & 3 \\ -2 & 4 & 0 \end{pmatrix}$$

II.

$$A=\begin{pmatrix} 1 & 2 & -1 \\ 0 & 1 & 2 \\ 4 & 2 & -3 \end{pmatrix},\ B=\begin{pmatrix} -5 & 5 & 9 \\ 2 & 10 & -9 \\ 8 & 6 & 1 \end{pmatrix}$$

III.

$$A=\begin{pmatrix} 43 & -62 & 76 \\ 54 & -10 & 57 \\ 90 & -9 & 7 \end{pmatrix},\ B=\begin{pmatrix} 31 & -7 & -2 \\ -6 & 83 & 2 \\ -28 & 49 & 99 \end{pmatrix}$$

IV.

$$A=\begin{pmatrix} -11 & 13 \\ 28 & 43 \end{pmatrix},\ B=\begin{pmatrix} -6 & 18 \\ 22 & -3 \end{pmatrix}$$

V.

$$A=\begin{pmatrix} -4 & 5 \\ 2 & 7 \end{pmatrix},\ B=\begin{pmatrix} -3 & -3 \\ 0 & 11 \end{pmatrix}$$

4. A. Find the value of X

$$X=3A-4B,$$

$$A=\begin{pmatrix} 4 & -2 \\ 1 & -7 \end{pmatrix},\ B=\begin{pmatrix} -1 & 2 \\ 6 & -5 \end{pmatrix}$$

B. Find the value of X

$$X = A+3B,$$

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

5. Solve and Discuss:

A. $(1+k)X-3=k(2x+1)$

B. $(b+2)(x-1)=b(3x+4)$

C. $(b-2)x+3=(b^2-1)(1-x)$

6. A. Given $y=x^2+4x+1$ and $y=-x+7$

i. Sketch the curve $y=x^2+4x+1$ and the line $y=-x+7$

ii. Determine the coordinate of point of intersection of the curve $y=x^2+4x+1$ and the line $y=-x+7$

B.. Given $y=2x^2-3x+1$ and $y=x+2$

i. Sketch the curve $y=2x^2-3x+1$ and $y=x+2$

ii. Determine the coordinate of point of intersection of the curve $y=2x^2-3x+1$ and the line $y=x+2$

7. Find the value of k for which the equation $(2k-1)x^2+4x+k=0$ has:

A. Two real roots

B. No real root

C. One double root

8. Find the value of a for which $x^2-2ax+(a^2-1)$ is positive for all real values of x.