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 **Matrices**

 **Assignment**

1. Find the no. of all possible matrices having order 3x4 with each entry 5 or 7.
2. Find Y, such that $\left[\begin{matrix}1&-4\\3&-2\end{matrix}\right]Y= \left[\begin{matrix}-16&-6\\7&2\end{matrix}\right]$ .
3. If the matrix A = $\left[\begin{matrix}0&6-5x\\x^{2}&x+3\end{matrix}\right] is $symmetric, find the values of x.
4. If order of a matrix A is 3x4 and order of matrix B is 3x3, then find the order of matrix AB.
5. Find a matrix X such that X.$\left[\begin{matrix}3&2\\1&-1\end{matrix}\right]$ = $\left[\begin{matrix}4&1\\2&3\end{matrix}\right]$.
6. If B is a skew symmetric matrix , write whether the matrix (ABA’) is symmetric or skew-symmetric matrix.
7. If A = $\left[\begin{matrix}3&1\\-1&2\end{matrix}\right]$ and A2 – 5A + 7I = O then using this result find A4.
8. If A = $\left[\begin{matrix}0&1\\0&0\end{matrix}\right]$, show that (a.I + b.A)n = anI + n.an-1.b.A for all natural number n.
9. If A = $\left[\begin{matrix}5&3\\-1&-2\end{matrix}\right]$ , Express this matrix as a sum of symmetric and skew symmetric matrix.
10. Find A-1, by using elementary column operations, where A = $\left[\begin{matrix}2&-6\\1&-2\end{matrix}\right]$ .
11. If A = $\left[\begin{matrix}a&b\\0&1\end{matrix}\right], a\ne 1 , prove that A^{n}= \left[\begin{matrix}a^{n}&\frac{b(a^{n}- 1)}{a-1}\\0&1\end{matrix}\right], n\in N .$