Latex Assignment18

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16 August, 2023

Ex 12.3.4

Using elementary transformations, find the inverse of each of the matrices, if it exists in 1 to 17:

1. $\begin{pmatrix} 1 & -1 \\ 2 & 3 \end{pmatrix}$
2. $\begin{pmatrix} 2 & 1 \\ 1 & 1 \end{pmatrix}$
3. $\begin{pmatrix} 1 & 3 \\ 2 & 7 \end{pmatrix}$
4. $\begin{pmatrix} 2 & 3 \\ 5 & 7 \end{pmatrix}$
5. $\begin{pmatrix} 2 & 1 \\ 7 & 4 \end{pmatrix}$
6. $\begin{pmatrix} 2 & 5 \\ 1 & 3 \end{pmatrix}$
7. $\begin{pmatrix} 3 & 1 \\ 5 & 2 \end{pmatrix}$
8. $\begin{pmatrix} 4 & 5 \\ 3 & 4 \end{pmatrix}$
9. $\begin{pmatrix} 3 & 10 \\ 2 & 7 \end{pmatrix}$
10. $\begin{pmatrix} 3 & -1 \\ -4 & 2 \end{pmatrix}$
11. $\begin{pmatrix} 2 & -6 \\ 1 & -2 \end{pmatrix}$

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

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

14. $\begin{pmatrix} 2 & 1 \\ 4 & 2 \end{pmatrix}$

15. $\begin{pmatrix} 2 & -3 & 3 \\ 2 & 2 & 3 \\ 3 & -2 & 2 \end{pmatrix}$

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

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

18. Matrices A and B will be inverse of each other only if:

    (a) $AB = BA$

    (b) $AB = BA = 0$

    (c) $AB = 0, BA = 1$

    (d) $AB = BA = 1$