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|  | TEACHER’S ACTIVITY | STUDENT’S ACTIVITY |
| PRESENTATION | The teacher presents the topic with the aid of these steps. |  |
| STEP 1 | **IDENTIFICATION OF PRIOR IDEA** |  |
|  | The teacher asks the students to state the condition for which two or more matrices can be added or subtracted. | The students answer the question. |
| STEP 2 | **EXPLORATION** |  |
|  | The teacher explores by further by tasking the students to find A B given that A and B . | The students solve the problem. |
| STEP 3 | **DISCUSSION** |  |
|  | **Transpose of a matrix**  Given a matrix Q, the transpose of Q is formed by interchanging its rows and columns.  Example, if Q , then QT  *Properties of transposition in matrices*   1. (AT)T A 2. (A B)T AT BT, A and B being of the same order. 3. (kA)T kAT, where k is a scalar. 4. (AB)T BTAT, A and B being conformable for the product AB.   **Determinant of Matrices**  The determinant of a matrix is a number defined only for square matrices. It is equal to the summation of the product of the elements of a particular row or column with their respective cofactors. Determinant of a matrix A is denoted as .  Suppose we are given a square matrix A, where A . The determinant of matrix A is calculated as:  *a* *b* *c* | The students listen to the teacher and copy the note. |
| STEP 4 | **APPLICATION** |  |
|  | Example 1  Given a matrix A , find AT.  Solution  AT  Example 2  Find the determinant of the 3 3 matrix N .  Solution  2 (-3) 1  2 3 1  2 3 1  2(4) 3(11) 1(8)  8 33 8  49 | The students listen to the teacher and ask questions. |
| STEP 5 | **EVALUATION** |  |
|  | The teacher evaluates the lesson with the questions below:   1. Define the transpose of a matrix. 2. Given matrix M , find MT 2M. 3. Find given that C | The students answer the questions. |
| CONCLUSION | The teacher concludes the lesson by giving correction to the evaluation question. |  |
| ASSIGNMENT | Find the determinant of the transpose of matrix C . |  |
| REFERENCE | New Concept Mathematics for senior secondary school book 3 by H N Odogwu, et al. |  |