

TOPIC 1. Elements of the theory of matrices and determinants. Matrix analysis of the international trade market

ТЕМА 1. Елементи теорії матриць і визначників. Матричний аналіз ринку міжнародної торгівлі

1. The definition of a matrix.
2. Types of matrices (square, triangular, diagonal, unit).
3. Basic operations with matrices.
4. Properties of these operations.
5. Transposition of a matrix.
6. The notion of an inverse matrix.
7. The definition of the determinant.
8. The rule of the triangle (Sarrus' rule).
9. The rules of the calculation of determinants of lower orders (schematic) and higher orders (expansion by Laplace formulas).
10. The properties of determinants.
11. Calculation of some special determinants (triangular, diagonal, identity matrices, the Vandermonde matrix).
12. Calculation of an inverse matrix with the help of determinants (algebraic cofactors).
13. An inverse matrix.
14. The matrix rank and ways to define it.