

Definition of the Inverse of a Matrix

An $n \times n$ matrix A is **invertible** (or **nonsingular**) when there exists an $n \times n$ matrix B such that

$$AB = BA = I_n$$

where I_n is the identity matrix of order n . The matrix B is the (multiplicative) **inverse** of A . A matrix that does not have an inverse is **noninvertible** (or **singular**).