Matrix Inverses

Inverse of a Matrix:

(a) Think of reciprocals for numbers like $\frac{1}{2} \cdot 2 = 1$.

(b) Need to start with a square matrix ($n \times n$).

(c) A square matrix is **invertible** if

Ex. 10.1:

Theorem 4:

Determinant: Let A be a 2×2 matrix, then the **determinant** of A

Theorem 5:

Proof:

Example 10.2:

Theorem 6 – Properties of Matrix Inverses

1.

2.

3.

4.

Theorem 7:

Algorithm for finding an Inverse Matrix: