

Math 510 Ungraded Homework 2.3

1. Ch. 2, Problem 6 (give an example showing $\det M = \det(AD - BC)$ is false, even though A, B, C, D are all square same size).

2. Let $A = \begin{bmatrix} x & y & z \\ w & v & u \\ t & s & r \end{bmatrix}$. Compute $\text{adj } A$.

3. Determine whether the given matrix A is invertible in $\mathbb{Z}^{2 \times 2}$, and whether A is invertible in $\mathbb{R}^{2 \times 2}$.

(a) $A = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$.

(b) $A = \begin{bmatrix} 1 & 2 \\ 3 & 5 \end{bmatrix}$.

(c) $A = \begin{bmatrix} 1 & 2 \\ 3 & 6 \end{bmatrix}$.