2-3 In-Class Exercise

1. use the adjoint method to find its inverse

$$A = \begin{bmatrix} 2 & -3 & 5 \\ 0 & 1 & -3 \\ 0 & 0 & 2 \end{bmatrix}$$

2. solve by Cramer's rule

$$\begin{aligned} 4x + 5y &= 2 \\ 11x + y + 2z &= 3 \\ x + 5y + 2z &= 1 \end{aligned}$$

2-3 Suggested Exercise

1. Find the values of k for which the matrix A is invertible.

$$A = \begin{bmatrix} 1 & 2 & 0 \\ k & 1 & k \\ 0 & 2 & 1 \end{bmatrix}$$

2. Let

$$A = \begin{bmatrix} a & b & c \\ d & e & f \\ g & h & i \end{bmatrix}$$

Assuming that $\det(A) = -7$, find $\det(2A^{-1})$

3. Given that A is a 4×4 matrix and $\det(A) = -2$, find the determinant of $\det(2A^T)$.

4. Given that A is a 3×3 matrix and $\det(A) = 7$, find the determinant of $\det((2A)^{-1})$.