

Assignment III
Due October 2

1. Write 6 different properties of determinants and illustrate them with examples.
2. A, B and C are three square matrices. $\text{Det}(AB) = 6$, $\text{Det}(BC) = 18$, $\text{Det} AC = 48$, $\text{Det}(3A) = 324$. What is the size of A?

3. Use Cramer's rule to solve the following:

$$2x - 3y + z = 1$$

$$x + 4y - 2z = 0$$

$$3x + 4y + 2z = 2$$

4. Compute the adjoint of

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

5. Some entries of A and adjoint of A are revealed below. find the rest.

$$A = \begin{bmatrix} 2 & & -1 \\ & 4 & 0 \\ & & 5 \end{bmatrix}, \text{adj}A = \begin{bmatrix} 8 & -3 \\ 6 & 5 \end{bmatrix}$$