***Section* 4.4 – Determinants**

**Determinant of a 2 *x* 2 Matrix**

Determinant of the matrix  is denoted  and is define as



***Example***

Let . Find 

***Solution***







***Example***

Evaluate: 

***Solution***



= 2 – 12





***Minor***

For a square matrix **, the minor . Of an element  is the determinant of the matrix formed by deleting the *ith* row and the *j*th column of *A*.

Cofactor: 





***Example***

 Find the determinant of *A*.

***Solution***





= −8(−30 – (−21)) – 0 + 6(−12 − 6)

= −8(−9) +6(−18)



***Determinant Using Diagonal Method***

 

 

*Determinant***: *D* = (1) − (2)**

***Example***

Evaluate 

***Solution***





***Example***

Evaluate 

***Solution***





***Example***

Evaluate 

***Solution***





***Exercises Section* 4.4 – Determinants**

(**1 − 34**) Evaluate

|  |  |  |
| --- | --- | --- |
|  |  |  |

(**35 − 46**) Solve for *x*

|  |  |  |
| --- | --- | --- |
|  |  |  |