Notes for section 4-5 Read p.183-185

## Second Order Determinants

- The value found by calculating the difference of the products of the two diagonals
- The square array of variables or numbers enclosed by ***parallel bars***

Find the value:
2 x 2 Matrices – Difference of the products of the diagonals

$$\begin{vmatrix} 6 & -4 \\ -1 & 0 \end{vmatrix}$$

$$\begin{vmatrix} -6 & 7 \\ -9 & 3 \end{vmatrix}$$

3 x 3 Matrices
Differences of the *products of the diagonals*

$$\begin{vmatrix} 1 & 0 & -1 \\ 2 & -1 & 3 \\ 4 & -2 & -3 \end{vmatrix}$$

Or use your TI84

Look in the matrix math menu

$$\begin{vmatrix} 1 & 0 & -1 \\ 2 & -1 & 3 \\ 4 & -2 & -3 \end{vmatrix}$$

Use Determinants to Find the AREA of a TRIANGLE

$$A = \frac{1}{2}\begin{vmatrix} a & b & 1 \\ c & d & 1 \\ e & f & 1 \end{vmatrix}$$

Where (a, b) (c, d) and (e, f) are the vertices of the triangle.

Find area of a triangle with vertices
(0, -1), (-2, -6) and (3, -2)