Application of determinants:

- The lines:

  $a_1x + b_1y + c_1 = 0$
  $a_2x + b_2y + c_2 = 0$ are concurrent if,
  $a_3x + b_3y + c_3 = 0$

  $$\begin{vmatrix} a_1 & b_1 & c_1 \\ a_2 & b_2 & c_2 \\ a_3 & b_3 & c_3 \end{vmatrix} = 0$$

  Note: The converse is not true

- The general 2 – degree equation $ax^2 + by^2 + 2hxy + 2gx + 2fy + c = 0$, represents a pair of straight lines if,

  $$\begin{vmatrix} a & h & g \\ h & b & f \\ g & f & c \end{vmatrix} = 0 \quad \text{or } abc + 2hgf - af^2 - bg^2 - ch^2 = 0$$

Return To Top