Some Important Determinants

$$\begin{vmatrix} 1 & 1 & 1 \\ a^2 & b^2 & c^2 \\ a^3 & b^3 & c^3 \end{vmatrix} = (a-b)(b-c)(c-a)(ab+bc+ca)$$

Degree = 5   Degree = 3 2nd degree terms

Put $a = b$ or $b = c$ or $c = a$

$\Rightarrow \Delta = 0$