Key Takeaways

Proof: $\Delta_1 = \begin{vmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & a_{33} \end{vmatrix}$ $\Delta_2 = \begin{vmatrix} ka_{11} & a_{12} & a_{13} \\ ka_{21} & a_{22} & a_{23} \\ ka_{31} & a_{32} & a_{33} \end{vmatrix}$

$\Delta_2 = k\,\Delta_1$

$$\Delta_2 = k \begin{vmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & a_{33} \end{vmatrix}$$

$$\Delta_1 = a_{11}M_{11} - a_{21}M_{21} + a_{31}M_{31}$$

With 1^{st} column

$$\Delta_2 = ka_{11}M_{11} - ka_{21}M_{21} + ka_{31}M_{31}$$

$$\Delta_2 = k(a_{11}M_{11} - a_{21}M_{21} + a_{31}M_{31}) = k\Delta_1$$

Return To Top