

$$9 = 10 + 1 - 2 \quad *$$

$$0 = -10 - 1 + 2$$

$$(1 \times 0) - (2 \times 9) = \begin{vmatrix} 1 & 9 \\ 0 & 2 \end{vmatrix} = \Delta$$

$$0 - 18 = -18$$

$$\frac{-18}{13} =$$

$$(1 \times 0) - (2 \times 9) = \begin{vmatrix} 1 & 9 \\ 0 & 2 \end{vmatrix} = \Delta$$

$$0 + 18 = 18$$

$$\frac{18}{13} =$$

$$(0 \times 9) - (0 \times 2) = \begin{vmatrix} 9 & 2 \\ 0 & 0 \end{vmatrix} = \Delta$$

$$0 - 0 = 0$$

$$\frac{0}{13} =$$

$$\boxed{1} = \frac{18}{13} = \frac{18 \Delta}{\Delta} = 18$$

$$\boxed{0} = \frac{70}{13} = \frac{70 \Delta}{\Delta} = 70$$

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

* المحدار من الرتبة الثالثة

كيف يمكن إيجاد قيمته؟

$$\begin{vmatrix} 2 & 1 & 2 \\ 2 & 2 & 1 \\ 1 & 0 & 2 \end{vmatrix} = \begin{vmatrix} 2 & 1 & 2 \\ 0 & 1 & -3 \\ 0 & -1 & 0 \end{vmatrix} = \begin{vmatrix} 2 & 1 & 2 \\ 0 & 1 & -3 \\ 0 & 0 & -3 \end{vmatrix} = 2(1 \times -3 - (-1 \times 9)) = 2(-3 + 9) = 2(6) = 12$$

$$(2 \times 1 \times 2) + (1 \times 2 \times 1) + (2 \times 2 \times 1) - (2 \times 2 \times 1) - (1 \times 2 \times 2) - (2 \times 1 \times 2) = 12 + 4 + 4 - 4 - 4 - 4 = 12$$