

DETERMINANTES DE 3X3 (METODO DE LAPLACE)

$$|x| = \begin{vmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & a_{33} \end{vmatrix} = a_{11} \begin{vmatrix} a_{22} & a_{23} \\ a_{32} & a_{33} \end{vmatrix} - a_{12} \begin{vmatrix} a_{21} & a_{23} \\ a_{31} & a_{33} \end{vmatrix} + a_{13} \begin{vmatrix} a_{21} & a_{22} \\ a_{31} & a_{32} \end{vmatrix}$$

Hallar el determinante de la matriz $A = \begin{pmatrix} -2 & 1 & 4 \\ 3 & 5 & -7 \\ 1 & 6 & 2 \end{pmatrix}$

Solución: $a_{11} =$ $a_{12} =$ $a_{13} =$

$$\begin{vmatrix} -2 & 1 & 4 \\ 3 & 5 & -7 \\ 1 & 6 & 2 \end{vmatrix} = \text{} \begin{vmatrix} 5 & -7 \\ 6 & 2 \end{vmatrix} - \text{} \begin{vmatrix} 3 & -7 \\ 1 & 2 \end{vmatrix} + \text{} \begin{vmatrix} 3 & 5 \\ 1 & 6 \end{vmatrix}$$

$$= -2 \cdot (5 \cdot 2 - 6 \cdot (-7)) - 1 \cdot (3 \cdot 2 - 1 \cdot (-7)) + 4 \cdot (3 \cdot 6 - 1 \cdot 5)$$

$$= -2 \cdot (10 + 42) - 1 \cdot (6 + 7) + 4 \cdot (18 - 5)$$

$$= \text{}$$