

SOLUCIONES DE SUMA Y RESTA DE MATRICES

1. Dadas las siguientes matrices, calcula:

$$A = \begin{pmatrix} 8 & 1 & -4 \\ 2 & 1 & 0 \\ 0 & 2 & 2 \end{pmatrix}$$

$$B = \begin{pmatrix} 8 & 7 & -14 \\ 12 & -1 & 0 \\ 0 & 4 & 3 \end{pmatrix}$$

a) A+B

$$\begin{aligned} A + B &= \begin{pmatrix} 8 & 1 & -4 \\ 2 & 1 & 0 \\ 0 & 2 & 2 \end{pmatrix} + \begin{pmatrix} 8 & 7 & -14 \\ 12 & -1 & 0 \\ 0 & 4 & 3 \end{pmatrix} \\ &= \begin{pmatrix} 8+8 & 1+7 & -4+(-14) \\ 2+12 & 1+(-1) & 0+0 \\ 0+0 & 2+4 & 2+3 \end{pmatrix} = \begin{pmatrix} 16 & 8 & -18 \\ 14 & 0 & 0 \\ 0 & 6 & 5 \end{pmatrix} \end{aligned}$$

b) A-B

$$\begin{aligned} A - B &= \begin{pmatrix} 8 & 1 & -4 \\ 2 & 1 & 0 \\ 0 & 2 & 2 \end{pmatrix} - \begin{pmatrix} 8 & 7 & -14 \\ 12 & -1 & 0 \\ 0 & 4 & 3 \end{pmatrix} \\ &= \begin{pmatrix} 8-8 & 1-7 & -4-(-14) \\ 2-12 & 1-(-1) & 0-0 \\ 0-0 & 2-4 & 2-3 \end{pmatrix} = \begin{pmatrix} 0 & -6 & 6 \\ -10 & 2 & 0 \\ 0 & -2 & -1 \end{pmatrix} \end{aligned}$$