

❖ MATRICES ADDITION

- To add two matrices: add the numbers in the matching positions:

$$\begin{bmatrix} 3 & 8 \\ 4 & 6 \end{bmatrix} + \begin{bmatrix} 4 & 0 \\ 1 & -9 \end{bmatrix} = \begin{bmatrix} 7 & 8 \\ 5 & -3 \end{bmatrix}$$

These are the calculations:

$$3+4 = 7 \quad 8+0 = 8$$

$$4+1 = 5 \quad 6-9 = -3$$

- The two matrices must be the same size, i.e. the rows must match in size, and the columns must match in size.
- Example: a matrix with **3 rows** and **5 columns** can be added to another matrix of **3 rows** and **5 columns**.
- But it could not be added to a matrix with **3 rows** and **4 columns** (the columns don't match in size)

Negative

- The negative of a matrix is also simple:

$$-\begin{bmatrix} 2 & -4 \\ 7 & 10 \end{bmatrix} = \begin{bmatrix} -2 & 4 \\ -7 & -10 \end{bmatrix}$$

These are the calculations:

$$-(2) = -2 \quad -(-4) = +4$$

$$-(7) = -7 \quad -(10) = -10$$