

## MGF / Addition or subtraction of matrices

### Keys to Success:

To be able to add or subtract matrices have to be the same size.

### Worked Examples:

#### Addition or subtraction of matrices

$$\text{Let } B = \begin{bmatrix} 0 & 5 & 2 \\ 1 & 3 & -4 \\ 5 & -1 & 6 \end{bmatrix} \text{ and } C = \begin{bmatrix} -5 & 5 & 1 \\ 3 & 2 & 6 \\ 2 & 0 & 7 \end{bmatrix}.$$

Find  $B - C$ .

$$B = \begin{bmatrix} 0 & 5 & 2 \\ 1 & 3 & -4 \\ 5 & -1 & 6 \end{bmatrix} \quad C = \begin{bmatrix} -5 & 5 & 1 \\ 3 & 2 & 6 \\ 2 & 0 & 7 \end{bmatrix} \quad *color\ coded*$$

$$B - C = \begin{bmatrix} 0 - (-5) & 5 - 5 & 2 - 1 \\ 1 - 3 & 3 - 2 & -4 - 6 \\ 5 - 2 & -1 - 0 & 6 - 7 \end{bmatrix}$$

$$B - C = \begin{bmatrix} 5 & 0 & 1 \\ -2 & 1 & -10 \\ 3 & -1 & -1 \end{bmatrix}$$


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#### Addition or subtraction of matrices

$$\text{Let } A = \begin{bmatrix} 0 & 4 \\ 7 & 5 \\ -3 & 4 \end{bmatrix} \text{ and } C = \begin{bmatrix} -6 & 0 \\ -5 & 7 \\ 3 & 2 \end{bmatrix}.$$

Find  $A + C$ .

$$3 \times 2$$

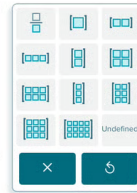
$$\begin{bmatrix} 0 & 4 \\ 7 & 5 \\ -3 & 4 \end{bmatrix} + \begin{bmatrix} -6 & 0 \\ -5 & 7 \\ 3 & 2 \end{bmatrix} = \begin{bmatrix} -6 & 4 \\ 2 & 12 \\ 0 & 6 \end{bmatrix}$$

#### Addition or subtraction of matrices

Let  $B = \begin{bmatrix} 5 & 1 & 5 \\ 3 & -3 & 0 \end{bmatrix}$  and  $C = \begin{bmatrix} 7 & 0 & 5 \\ 6 & -4 & 7 \end{bmatrix}$ .

Find  $B + C$ .

$B + C =$



rows  $\times$  columns

$$B = 2 \times 3$$

$$C = 2 \times 3$$

to be able to add/subtract  
they have to be the same

$$\begin{matrix} B & + & C \\ \begin{bmatrix} 5 & 1 & 5 \\ 3 & -3 & 0 \end{bmatrix} & + & \begin{bmatrix} 7 & 0 & 5 \\ 6 & -4 & 7 \end{bmatrix} & = & \begin{bmatrix} 12 & 1 & 10 \\ 9 & -7 & 7 \end{bmatrix} \end{matrix}$$

#GraphsFunctionsAndSystems

Note: This feature is not available to...

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