Topic: Matrix dimensions and entries

Question: Give the dimensions of the matrix.

$$K = \begin{bmatrix} 1 & 0 & -1 & 3 \\ 2 & 5 & 6 & -2 \end{bmatrix}$$

Answer choices:

A The dimensions are 4×2

B The dimensions are 1×8

C The dimensions are 2×4

D The dimensions are 3×3

Solution: C

We always give the dimensions of a matrix as rows $\times$ columns. Matrix K has 2 rows and 4 columns, so K is a 2×4 matrix.

Topic: Matrix dimensions and entries

Question: Given matrix B, find $B_{2,1}$.

$$B = \begin{bmatrix} 1 & 3 \\ 0 & -1 \end{bmatrix}$$

Answer choices:

A -1

B 0

C -1

D 3

Solution: B

The value of $B_{2,1}$ is the entry in the second row, first column of matrix B, which is 0, so $B_{2,1} = 0$.

Topic: Matrix dimensions and entries

Question: Give the dimensions of matrix M and find $M_{3,2}$.

$$M = \begin{bmatrix} 1 & 3 & 7 \\ 0 & -1 & 2 \\ 9 & 4 & 6 \end{bmatrix}$$

Answer choices:

A The dimensions are 3×3 and $M_{3,2} = 4$

B The dimensions are 2×3 and $M_{3,2} = 2$

C The dimensions are 3×3 and $M_{3,2} = 2$

D The dimensions are 3×1 and $M_{3,2} = 4$

Solution: A

We always give the dimensions of a matrix as rows $\times$ columns. Matrix M has 3 rows and 3 columns, so M is a 3×3 matrix.

The value of $M_{3,2}$ is the entry in the third row, second column of matrix M, which is 4, so $M_{3,2} = 4$.