

EduSahara™ Learning Center Assignment

Grade : Class X, ICSE

Chapter : Matrices

Name : Matrix with variables

1. If $A = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$ and $B = \begin{bmatrix} 7 & 5 \\ 4 & 9 \end{bmatrix}$ and if $A = B$,

find the values of a, b, c and d

(i) $a = 5, b = 4, c = 7, d = 9$

(ii) $a = 7, b = 5, c = 9, d = 4$

(iii) $a = 9, b = 5, c = 7, d = 4$

(iv) $a = 7, b = 5, c = 4, d = 9$

2. If $A = \begin{bmatrix} (p - 7) & (9q - 6) \\ (8r + 5) & (s + 9) \end{bmatrix}$ and $B = \begin{bmatrix} 4 & 1 \\ 2 & 3 \end{bmatrix}$,

find the values of p, q, r and s

(i) $p = 11, q = -6, r = 7/9, s = -3/8$

(ii) $p = 11, q = -3/8, r = 7/9, s = -6$

(iii) $p = 7/9, q = 11, r = -3/8, s = -6$

(iv) $p = 11, q = 7/9, r = -3/8, s = -6$

(v) $p = 7/9, q = 11, r = -6, s = -3/8$

3. If $\begin{bmatrix} (4x + 9y) & 8 \\ 6 & (3x + 8y) \end{bmatrix} = \begin{bmatrix} -6 & 8 \\ 6 & -1 \end{bmatrix}$, find x and y

(i) $(\frac{-39}{5}, \frac{14}{5})$ (ii) $(\frac{-39}{5}, \frac{10}{3})$ (iii) $(\frac{14}{5}, \frac{-39}{5})$

(iv) $(\frac{-37}{5}, \frac{14}{5})$ (v) $(\frac{-53}{7}, \frac{18}{7})$

4. If $A = \begin{bmatrix} (-9x + 3y) & (-7x + 6y) \\ (6x + 6y) & (7x + 5y) \end{bmatrix} = \begin{bmatrix} 6 & 4 \\ a & b \end{bmatrix}$,

find a and b

(i) $(\frac{-60}{11}, -7)$ (ii) $(\frac{-58}{11}, -6)$ (iii) $(\frac{-60}{11}, -6)$

(iv) $(-6, \frac{-60}{11})$ (v) $(\frac{-70}{12}, -5)$

5. If $A = \begin{bmatrix} 3 & 0 \\ 0 & x \end{bmatrix}$ is a scalar matrix, then $x = ?$

- (i) 9 (ii) 3 (iii) x (iv) 0 (v) 1

6. If $X + Y = \begin{bmatrix} 8 & -12 \\ 4 & 6 \end{bmatrix}$ & $X - Y = \begin{bmatrix} -6 & -2 \\ -2 & 6 \end{bmatrix}$, find X and Y

(i) $\begin{bmatrix} 1 & -7 \\ 1 & 6 \end{bmatrix}, \begin{bmatrix} 7 & -5 \\ 3 & 0 \end{bmatrix}$

(ii) $\begin{bmatrix} 1 & -7 \\ 1 & 6 \end{bmatrix}, \begin{bmatrix} 7 & -5 \\ 5 & 0 \end{bmatrix}$

(iii) $\begin{bmatrix} 1 & -7 \\ 0 & 6 \end{bmatrix}, \begin{bmatrix} 7 & -5 \\ 3 & 0 \end{bmatrix}$

(iv) $\begin{bmatrix} 7 & -5 \\ 3 & 0 \end{bmatrix}, \begin{bmatrix} 1 & -7 \\ 1 & 6 \end{bmatrix}$

7. If $A = \begin{bmatrix} 7 & 8 \\ 1 & -1 \end{bmatrix}$ and the sum of the values of

elements of matrix $kA = 60$, find k

- (i) 4 (ii) 5 (iii) 3 (iv) 2 (v) 7

8. Given $A = \begin{bmatrix} 0 & -3 \\ 1 & 6 \end{bmatrix}$ and $B = \begin{bmatrix} a & 1 \\ b & 0 \end{bmatrix}$,

if $BA = I$ find a and b

(i) $a = 2, b = -1$

(ii) $a = 2, b = (-\frac{1}{3})$

(iii) $a = -1, b = (-\frac{1}{3})$

(iv) $a = 2, b = 2$

Assignment Key

- 1) (iv)
- 2) (iv)
- 3) (i)
- 4) (iii)
- 5) (ii)
- 6) (i)
- 7) (i)
- 8) (ii)