EduSahara™ Assignment

Name : Matrix Addition and Subtraction

Chapter : Matrices

Grade : ICSE Grade X

1. If $A = \begin{bmatrix} 9 & 1 \\ -7 & -8 \end{bmatrix}$ and $B = \begin{bmatrix} 4 & 5 \\ 1 & 0 \end{bmatrix}$, then $A + B =$

(i) $\begin{bmatrix} 13 & 6 \\ -3 & -8 \end{bmatrix}$ (ii) $\begin{bmatrix} 13 & 6 \\ -6 & -8 \end{bmatrix}$ (iii) $\begin{bmatrix} 13 & 3 \\ -6 & -8 \end{bmatrix}$ (iv) $\begin{bmatrix} 13 & 6 \\ -7 & -8 \end{bmatrix}$ (v) $\begin{bmatrix} 13 & 6 \\ -6 & -7 \end{bmatrix}$

2. If $A = \begin{bmatrix} -4 & -7 \\ -7 & -5 \end{bmatrix}$ and $B = \begin{bmatrix} 9 & -3 \\ 4 & 8 \end{bmatrix}$, then $A - B =$

(i) $\begin{bmatrix} -13 & -4 \\ -11 & -10 \end{bmatrix}$ (ii) $\begin{bmatrix} -13 & -4 \\ -11 & -13 \end{bmatrix}$ (iii) $\begin{bmatrix} -13 & -4 \\ -10 & -13 \end{bmatrix}$ (iv) $\begin{bmatrix} -13 & -4 \\ -13 & -13 \end{bmatrix}$ (v) $\begin{bmatrix} -13 & -4 \\ -12 & -13 \end{bmatrix}$

3. If $A = \begin{bmatrix} -2 & -2 & 3 \\ 2 & 3 & 1 \\ -2 & -1 & -3 \end{bmatrix}$ and $B = \begin{bmatrix} -3 & 2 & 4 \\ 4 & 3 & -2 \\ 1 & -4 & 3 \end{bmatrix}$, then $A + B =$

(i) $\begin{bmatrix} -5 & 0 & 7 \\ 6 & 6 & -1 \\ -1 & -4 & 0 \end{bmatrix}$ (ii) $\begin{bmatrix} -3 & 0 & 7 \\ 6 & 6 & -1 \\ -1 & -5 & 0 \end{bmatrix}$ (iii) $\begin{bmatrix} -5 & 0 & 7 \\ 6 & 6 & -1 \\ -1 & -5 & 0 \end{bmatrix}$ (iv) $\begin{bmatrix} -5 & 0 & 7 \\ 6 & 6 & -2 \\ -1 & -5 & 0 \end{bmatrix}$ (v) $\begin{bmatrix} -5 & 0 & 7 \\ 3 & 6 & -1 \\ -1 & -5 & 0 \end{bmatrix}$

4. If $A = \begin{bmatrix} 0 \\ 2 \\ -1 \end{bmatrix}$ and $B = \begin{bmatrix} 0 \\ 1 \\ 1 \end{bmatrix}$, then $A - B =$

(i) $\begin{bmatrix} 0 \\ -1 \\ -2 \end{bmatrix}$ (ii) $\begin{bmatrix} 0 \\ 4 \\ -2 \end{bmatrix}$ (iii) $\begin{bmatrix} 0 \\ 2 \\ -2 \end{bmatrix}$ (iv) $\begin{bmatrix} 0 \\ 0 \\ -2 \end{bmatrix}$ (v) $\begin{bmatrix} 0 \\ 1 \\ -2 \end{bmatrix}$

5. If $A = \begin{bmatrix} 2 & -1 & 2 \\ -1 & 1 & 0 \end{bmatrix}$ and $B = \begin{bmatrix} -1 & -1 & 2 \\ -1 & -2 & -1 \end{bmatrix}$, then $A + B =$

(i) $\begin{bmatrix} -2 & -2 & 4 \\ -2 & -1 & -1 \end{bmatrix}$ (ii) $\begin{bmatrix} 1 & -2 & 5 \\ -2 & -1 & -1 \end{bmatrix}$ (iii) $\begin{bmatrix} 1 & -2 & 4 \\ -2 & -2 & -1 \end{bmatrix}$ (iv) $\begin{bmatrix} 1 & -2 & 4 \\ -2 & -1 & -1 \end{bmatrix}$ (v) $\begin{bmatrix} 1 & -2 & 4 \\ -2 & -1 & 1 \end{bmatrix}$

6. If $A = \begin{bmatrix} -1 \end{bmatrix}$ and $B = \begin{bmatrix} 1 \end{bmatrix}$, then $A + B =$

(i) $\begin{bmatrix} -1 \end{bmatrix}$ (ii) $\begin{bmatrix} -2 \end{bmatrix}$ (iii) $\begin{bmatrix} 1 \end{bmatrix}$ (iv) $\begin{bmatrix} 3 \end{bmatrix}$ (v) $\begin{bmatrix} 0 \end{bmatrix}$

7. If $A = \begin{bmatrix} 2 & -1 & 2 \\ 2 & -3 & 0 \\ -2 & -1 & 0 \end{bmatrix}$, then $6A =$

(i) $\begin{bmatrix} 12 & -6 & 12 \\ 12 & -18 & 0 \\ -12 & -6 & 0 \end{bmatrix}$ (ii) $\begin{bmatrix} 12 & -6 & 12 \\ 12 & -18 & 0 \\ -12 & -6 & -1 \end{bmatrix}$ (iii) $\begin{bmatrix} 12 & -6 & 12 \\ 14 & -18 & 0 \\ -12 & -6 & 0 \end{bmatrix}$ (iv) $\begin{bmatrix} 12 & -6 & 12 \\ 12 & -18 & 0 \\ -11 & -6 & 0 \end{bmatrix}$ (v) $\begin{bmatrix} 12 & -6 & 12 \\ 12 & -18 & 0 \\ -12 & -8 & 0 \end{bmatrix}$

8. If $A = \begin{bmatrix} 3 & 2 \\ 1 & 3 \end{bmatrix}$ and $B = \begin{bmatrix} 4 & -2 \\ -3 & 1 \end{bmatrix}$, then $3A + 5B =$

(i) $\begin{bmatrix} 29 & -4 \\ -13 & 14 \end{bmatrix}$ (ii) $\begin{bmatrix} 29 & -4 \\ -12 & 16 \end{bmatrix}$ (iii) $\begin{bmatrix} 29 & -4 \\ -12 & 15 \end{bmatrix}$ (iv) $\begin{bmatrix} 29 & -4 \\ -14 & 14 \end{bmatrix}$ (v) $\begin{bmatrix} 29 & -4 \\ -12 & 14 \end{bmatrix}$

9. If $A = \begin{bmatrix} -1 & 0 \\ 0 & -3 \end{bmatrix}$ and $B = \begin{bmatrix} -2 & -5 \\ 3 & 4 \end{bmatrix}$, then $7A - 7B =$

(i) $\begin{bmatrix} 7 & 35 \\ -21 & -49 \end{bmatrix}$ (ii) $\begin{bmatrix} 7 & 38 \\ -21 & -49 \end{bmatrix}$ (iii) $\begin{bmatrix} 7 & 32 \\ -21 & -49 \end{bmatrix}$ (iv) $\begin{bmatrix} 8 & 35 \\ -21 & -49 \end{bmatrix}$ (v) $\begin{bmatrix} 7 & 34 \\ -21 & -49 \end{bmatrix}$

10. If $A = \begin{bmatrix} 4 & 4 & -3 \\ 5 & 2 & 2 \\ -1 & -3 & -5 \end{bmatrix}$ and $O = \begin{bmatrix} 0 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{bmatrix}$, then $A + O =$

(i) $\begin{bmatrix} 1 & 4 & -3 \\ 5 & 2 & 2 \\ -1 & -3 & -5 \end{bmatrix}$ (ii) $\begin{bmatrix} 4 & 7 & -3 \\ 5 & 2 & 2 \\ -1 & -3 & -5 \end{bmatrix}$ (iii) $\begin{bmatrix} 4 & 4 & -3 \\ 4 & 2 & 2 \\ -1 & -3 & -5 \end{bmatrix}$ (iv) $\begin{bmatrix} 4 & 4 & -3 \\ 5 & 2 & 2 \\ -1 & -3 & -5 \end{bmatrix}$ (v) $\begin{bmatrix} 4 & 4 & -3 \\ 5 & 2 & 2 \\ 0 & -3 & -5 \end{bmatrix}$

11. If $A = \begin{bmatrix} 2 & -9 \\ -1 & -4 \end{bmatrix}$, $B = \begin{bmatrix} 3 & 4 \\ -5 & 5 \end{bmatrix}$ and $C = \begin{bmatrix} 4 & -4 \\ -3 & -9 \end{bmatrix}$,
then $6A - 10B + 10C =$

(i) $\begin{bmatrix} 22 & -134 \\ 14 & -164 \end{bmatrix}$ (ii) $\begin{bmatrix} 21 & -134 \\ 14 & -164 \end{bmatrix}$ (iii) $\begin{bmatrix} 22 & -131 \\ 14 & -164 \end{bmatrix}$ (iv) $\begin{bmatrix} 22 & -134 \\ 14 & -166 \end{bmatrix}$ (v) $\begin{bmatrix} 22 & -134 \\ 14 & -163 \end{bmatrix}$

12. Find A , given that $A + 4\begin{bmatrix} 1 & 6 \\ 8 & -6 \end{bmatrix} = \begin{bmatrix} 6 & 16 \\ 25 & -20 \end{bmatrix}$

(i) $\begin{bmatrix} 1 & -8 \\ -7 & 4 \end{bmatrix}$ (ii) $\begin{bmatrix} 2 & -8 \\ -9 & 4 \end{bmatrix}$ (iii) $\begin{bmatrix} 2 & -6 \\ -7 & 4 \end{bmatrix}$ (iv) $\begin{bmatrix} 2 & -8 \\ -7 & 5 \end{bmatrix}$ (v) $\begin{bmatrix} 2 & -8 \\ -7 & 4 \end{bmatrix}$

13. If $A = \begin{bmatrix} -6 & -4 \\ 0 & -6 \end{bmatrix}$, then find B satisfying $A + B = O$

(i) $\begin{bmatrix} 6 & 4 \\ -2 & 6 \end{bmatrix}$ (ii) $\begin{bmatrix} 6 & 4 \\ 0 & 6 \end{bmatrix}$ (iii) $\begin{bmatrix} 5 & 4 \\ 0 & 6 \end{bmatrix}$ (iv) $\begin{bmatrix} 9 & 4 \\ 0 & 6 \end{bmatrix}$ (v) $\begin{bmatrix} 6 & 4 \\ 1 & 6 \end{bmatrix}$

14. If $A = \begin{bmatrix} 0 & 1 \\ 4 & 4 \end{bmatrix}$, then find B satisfying $A + B = I$

(i) $\begin{bmatrix} 1 & -4 \\ -4 & -3 \end{bmatrix}$ (ii) $\begin{bmatrix} 1 & -1 \\ -4 & -3 \end{bmatrix}$ (iii) $\begin{bmatrix} 4 & -1 \\ -4 & -3 \end{bmatrix}$ (iv) $\begin{bmatrix} 2 & -1 \\ -4 & -3 \end{bmatrix}$ (v) $\begin{bmatrix} 1 & -2 \\ -4 & -3 \end{bmatrix}$

15. If $A = \begin{bmatrix} -8 & 3 \\ -2 & -7 \end{bmatrix}$, then find B satisfying $A + B = A$

(i) $\begin{bmatrix} 0 & 0 \\ 0 & 2 \end{bmatrix}$ (ii) $\begin{bmatrix} -1 & 0 \\ 0 & 0 \end{bmatrix}$ (iii) $\begin{bmatrix} 0 & 0 \\ 0 & 0 \end{bmatrix}$ (iv) $\begin{bmatrix} 0 & 0 \\ 0 & 1 \end{bmatrix}$ (v) $\begin{bmatrix} 0 & 0 \\ 0 & -3 \end{bmatrix}$

16. If $(A+B)=0$, then

a) B is the additive identity of A
b) A is the additive identity of B
c) A is the additive inverse of B
d) B is the additive inverse of A

(i) {a,d,c} (ii) {a,b,c} (iii) {b,d} (iv) {a,c} (v) {c,d}

17. If $A=\begin{bmatrix}3&3\\-2&7\end{bmatrix}$ and $B=\begin{bmatrix}2&1\\1&-2\end{bmatrix}$ and $D=\begin{bmatrix}-32&20\\-56&46\end{bmatrix}$,
$8A-10B+6C=D$, then C = ?

(i) $\begin{bmatrix}-6&-1\\-5&-5\end{bmatrix}$ (ii) $\begin{bmatrix}-6&3\\-5&-5\end{bmatrix}$ (iii) $\begin{bmatrix}-6&1\\-5&-5\end{bmatrix}$ (iv) $\begin{bmatrix}-6&2\\-5&-5\end{bmatrix}$ (v) $\begin{bmatrix}-6&1\\-6&-5\end{bmatrix}$

18. If $A=\begin{bmatrix}-4&6\\4&-2\end{bmatrix}$ and the sum of the values of
elements of matrix $kA=16$, find k

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

19. If $A=\begin{bmatrix}6&5\\-1&6\end{bmatrix}$, the value of -A =

(i) $\begin{bmatrix}-6&-6\\1&-6\end{bmatrix}$ (ii) $\begin{bmatrix}-6&-5\\1&-6\end{bmatrix}$ (iii) $\begin{bmatrix}-6&-5\\-2&-6\end{bmatrix}$ (iv) $\begin{bmatrix}-6&-4\\1&-6\end{bmatrix}$ (v) $\begin{bmatrix}-6&-2\\1&-6\end{bmatrix}$

20. If $A=\begin{bmatrix}-6&9\\-6&9\end{bmatrix}$, $B=\begin{bmatrix}9&-7\\3&-1\end{bmatrix}$ and $C=\begin{bmatrix}6&6\\-8&2\end{bmatrix}$,
then $A+4B+6C=$

(i) $\begin{bmatrix}66&17\\-42&20\end{bmatrix}$ (ii) $\begin{bmatrix}66&18\\-42&17\end{bmatrix}$ (iii) $\begin{bmatrix}64&17\\-42&17\end{bmatrix}$ (iv) $\begin{bmatrix}66&17\\-42&17\end{bmatrix}$ (v) $\begin{bmatrix}66&17\\-43&17\end{bmatrix}$

21. Find the additive identity of matrix $A=\begin{bmatrix}4&0\\3&4\end{bmatrix}$

(i) $\begin{bmatrix}0&0\\-3&0\end{bmatrix}$ (ii) $\begin{bmatrix}0&0\\0&0\end{bmatrix}$ (iii) $\begin{bmatrix}0&0\\0&1\end{bmatrix}$ (iv) $\begin{bmatrix}0&0\\0&-1\end{bmatrix}$ (v) $\begin{bmatrix}2&0\\0&0\end{bmatrix}$

22. Find the additive identity of matrix $A=\begin{bmatrix}2&3&0\\-2&0&-2\\4&0&4\end{bmatrix}$

(i) $\begin{bmatrix}0&0&0\\0&0&0\\-2&0&0\end{bmatrix}$ (ii) $\begin{bmatrix}0&0&0\\0&0&0\\0&0&0\end{bmatrix}$ (iii) $\begin{bmatrix}0&0&0\\0&0&0\\3&0&0\end{bmatrix}$ (iv) $\begin{bmatrix}0&-1&0\\0&0&0\\0&0&0\end{bmatrix}$ (v) $\begin{bmatrix}0&1&0\\0&0&0\\0&0&0\end{bmatrix}$

Assignment Key

1) (ii)	2) (ii)	3) (iii)	4) (v)	5) (iv)	6) (v)
7) (i)	8) (v)	9) (i)	10) (iv)	11) (i)	12) (v)
13) (ii)	14) (ii)	15) (iii)	16) (v)	17) (iii)	18) (ii)
19) (ii)	20) (iv)	21) (ii)	22) (ii)		