EduSahara™ Learning Center Assignment

Grade : Class X, ICSE
Chapter : Matrices
Name : Matrix Addition and Subtraction

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

(i) $\begin{bmatrix} -8 & -3 \\ -7 & 5 \end{bmatrix}$ (ii) $\begin{bmatrix} -9 & -3 \\ -7 & 5 \end{bmatrix}$ (iii) $\begin{bmatrix} -7 & -3 \\ -5 & 5 \end{bmatrix}$

(iv) $\begin{bmatrix} -7 & -3 \\ -7 & 5 \end{bmatrix}$ (v) $\begin{bmatrix} -7 & -2 \\ -7 & 5 \end{bmatrix}$

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

(i) $\begin{bmatrix} -8 & -2 \\ -9 & -3 \end{bmatrix}$ (ii) $\begin{bmatrix} -8 & -2 \\ -7 & -3 \end{bmatrix}$ (iii) $\begin{bmatrix} -8 & -5 \\ -8 & -3 \end{bmatrix}$

(iv) $\begin{bmatrix} -8 & -2 \\ -6 & -3 \end{bmatrix}$ (v) $\begin{bmatrix} -8 & -2 \\ -8 & -3 \end{bmatrix}$

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

(i) $\begin{bmatrix} -2 & 4 & -4 \\ -6 & -4 & -2 \\ 0 & 5 & 9 \end{bmatrix}$ (ii) $\begin{bmatrix} -2 & 4 & -4 \\ -6 & -3 & -2 \\ 0 & 5 & 7 \end{bmatrix}$ (iii) $\begin{bmatrix} -2 & 4 & -4 \\ -6 & -4 & -2 \\ 0 & 5 & 7 \end{bmatrix}$

(iv) $\begin{bmatrix} -2 & 2 & -4 \\ -6 & -4 & -2 \\ 0 & 5 & 7 \end{bmatrix}$ (v) $\begin{bmatrix} -2 & 4 & -5 \\ -6 & -4 & -2 \\ 0 & 5 & 7 \end{bmatrix}$

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

(i) $\begin{bmatrix} -2 \\ 2 \\ -2 \end{bmatrix}$ (ii) $\begin{bmatrix} -2 \\ 2 \\ -3 \end{bmatrix}$ (iii) $\begin{bmatrix} -2 \\ 3 \\ -2 \end{bmatrix}$

(iv) $\begin{bmatrix} -2 \\ 4 \\ -2 \end{bmatrix}$ (v) $\begin{bmatrix} -2 \\ 2 \\ -5 \end{bmatrix}$

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

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

(iv) $\begin{bmatrix} 1 & 4 & -5 \\ 1 & 0 & 3 \end{bmatrix}$ (v) $\begin{bmatrix} 1 & 4 & -6 \\ 1 & 0 & 3 \end{bmatrix}$

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6. If A = $\begin{bmatrix} 2 \end{bmatrix}$ and B = $\begin{bmatrix} 0 \end{bmatrix}$, then A + B =

(i) $\begin{bmatrix} 2 \end{bmatrix}$ (ii) $\begin{bmatrix} -1 \end{bmatrix}$ (iii) $\begin{bmatrix} 1 \end{bmatrix}$

(iv) $\begin{bmatrix} 4 \end{bmatrix}$ (v) $\begin{bmatrix} 3 \end{bmatrix}$

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

(i) $\begin{bmatrix} 27 & 0 & -10 \\ -20 & 0 & 40 \\ 20 & -10 & 0 \end{bmatrix}$ (ii) $\begin{bmatrix} 30 & 0 & -10 \\ -20 & 0 & 40 \\ 20 & -11 & 0 \end{bmatrix}$ (iii) $\begin{bmatrix} 30 & 0 & -10 \\ -20 & 0 & 40 \\ 20 & -10 & 0 \end{bmatrix}$

(iv) $\begin{bmatrix} 30 & 0 & -10 \\ -20 & 0 & 40 \\ 20 & -7 & 0 \end{bmatrix}$ (v) $\begin{bmatrix} 30 & 0 & -10 \\ -20 & 0 & 40 \\ 20 & -9 & 0 \end{bmatrix}$

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

(i) $\begin{bmatrix} 22 & 4 \\ -16 & 7 \end{bmatrix}$ (ii) $\begin{bmatrix} 20 & 4 \\ -16 & 8 \end{bmatrix}$ (iii) $\begin{bmatrix} 22 & 4 \\ -15 & 8 \end{bmatrix}$

(iv) $\begin{bmatrix} 22 & 4 \\ -16 & 8 \end{bmatrix}$ (v) $\begin{bmatrix} 24 & 4 \\ -16 & 8 \end{bmatrix}$

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9. If A = $\begin{bmatrix} -3 & -3 \\ 4 & 0 \end{bmatrix}$ and B = $\begin{bmatrix} 3 & 4 \\ 0 & 0 \end{bmatrix}$, then 6 A − 8 B =

(i) $\begin{bmatrix} -42 & -50 \\ 24 & -1 \end{bmatrix}$ (ii) $\begin{bmatrix} -45 & -50 \\ 24 & 0 \end{bmatrix}$ (iii) $\begin{bmatrix} -41 & -50 \\ 24 & 0 \end{bmatrix}$

(iv) $\begin{bmatrix} -42 & -50 \\ 24 & 0 \end{bmatrix}$ (v) $\begin{bmatrix} -42 & -50 \\ 24 & 2 \end{bmatrix}$

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10. If A = $\begin{bmatrix} 4 & -2 & 0 \\ 2 & 5 & 5 \\ -6 & 3 & -2 \end{bmatrix}$ and O = $\begin{bmatrix} 0 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{bmatrix}$, then A + O =

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

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

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11. If A = $\begin{bmatrix} -4 & 8 \\ 0 & 0 \end{bmatrix}$, B = $\begin{bmatrix} 3 & -9 \\ -8 & 4 \end{bmatrix}$ and C = $\begin{bmatrix} -1 & 2 \\ 1 & 4 \end{bmatrix}$,

then 5 A − 3 B + 10 C =

(i) $\begin{bmatrix} -39 & 87 \\ 34 & 28 \end{bmatrix}$ (ii) $\begin{bmatrix} -39 & 87 \\ 34 & 31 \end{bmatrix}$ (iii) $\begin{bmatrix} -39 & 87 \\ 33 & 28 \end{bmatrix}$

(iv) $\begin{bmatrix} -39 & 87 \\ 31 & 28 \end{bmatrix}$ (v) $\begin{bmatrix} -39 & 87 \\ 34 & 29 \end{bmatrix}$

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12. Find A , given that A + 6 $\begin{bmatrix} -3 & 6 \\ -3 & 7 \end{bmatrix}$ = $\begin{bmatrix} -26 & 43 \\ -10 & 41 \end{bmatrix}$

(i) $\begin{bmatrix} -8 & 7 \\ 8 & 0 \end{bmatrix}$ (ii) $\begin{bmatrix} -8 & 9 \\ 8 & -1 \end{bmatrix}$ (iii) $\begin{bmatrix} -8 & 7 \\ 6 & -1 \end{bmatrix}$

(iv) $\begin{bmatrix} -8 & 7 \\ 8 & -2 \end{bmatrix}$ (v) $\begin{bmatrix} -8 & 7 \\ 8 & -1 \end{bmatrix}$

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13. If A = $\begin{bmatrix} 1 & 6 \\ -2 & -6 \end{bmatrix}$, then find B satisfying A + B = O

(i) $\begin{bmatrix} -1 & -5 \\ 2 & 6 \end{bmatrix}$ (ii) $\begin{bmatrix} -1 & -6 \\ 2 & 6 \end{bmatrix}$ (iii) $\begin{bmatrix} -1 & -6 \\ 2 & 8 \end{bmatrix}$

(iv) $\begin{bmatrix} -1 & -8 \\ 2 & 6 \end{bmatrix}$ (v) $\begin{bmatrix} -1 & -6 \\ 2 & 5 \end{bmatrix}$

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14. If A = $\begin{bmatrix} 0 & 0 \\ 0 & 2 \end{bmatrix}$, then find B satisfying A + B = I

(i) $\begin{bmatrix} 1 & 0 \\ 0 & -4 \end{bmatrix}$ (ii) $\begin{bmatrix} 1 & 0 \\ 3 & -1 \end{bmatrix}$ (iii) $\begin{bmatrix} 1 & 0 \\ 0 & -1 \end{bmatrix}$

(iv) $\begin{bmatrix} 1 & 0 \\ 1 & -1 \end{bmatrix}$ (v) $\begin{bmatrix} 1 & -1 \\ 0 & -1 \end{bmatrix}$

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15. If A = $\begin{bmatrix} -1 & -3 \\ 1 & -7 \end{bmatrix}$, then find B satisfying A + B = A

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

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

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

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

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

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17. If A = $\begin{bmatrix} -9 & 9 \\ 8 & 6 \end{bmatrix}$ and B = $\begin{bmatrix} 4 & 4 \\ -5 & -8 \end{bmatrix}$ and D = $\begin{bmatrix} -69 & 39 \\ 39 & 114 \end{bmatrix}$,

3 A − 9 B + 6 C = D, then C = ?

(i) $\begin{bmatrix} -1 & 8 \\ -5 & 4 \end{bmatrix}$ (ii) $\begin{bmatrix} -1 & 8 \\ -5 & 5 \end{bmatrix}$ (iii) $\begin{bmatrix} -1 & 7 \\ -5 & 4 \end{bmatrix}$

(iv) $\begin{bmatrix} -1 & 8 \\ -2 & 4 \end{bmatrix}$ (v) $\begin{bmatrix} -4 & 8 \\ -5 & 4 \end{bmatrix}$

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18. If A = $\begin{bmatrix} 9 & 2 \\ -6 & 5 \end{bmatrix}$ and the sum of the values of

elements of matrix kA = 80 , find k

(i) 9 (ii) 8 (iii) 5 (iv) 11 (v) 7

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19. If A = $\begin{bmatrix} -5 & -1 \\ -5 & 8 \end{bmatrix}$, the value of -A =

(i) $\begin{bmatrix} 5 & 1 \\ 5 & -8 \end{bmatrix}$ (ii) $\begin{bmatrix} 5 & 2 \\ 5 & -8 \end{bmatrix}$ (iii) $\begin{bmatrix} 5 & 1 \\ 5 & -10 \end{bmatrix}$

(iv) $\begin{bmatrix} 5 & 1 \\ 5 & -6 \end{bmatrix}$ (v) $\begin{bmatrix} 5 & 0 \\ 5 & -8 \end{bmatrix}$

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20. If A = $\begin{bmatrix} 3 & 3 \\ 5 & 5 \end{bmatrix}$, B = $\begin{bmatrix} 9 & 5 \\ -9 & -5 \end{bmatrix}$ and C = $\begin{bmatrix} -2 & -5 \\ -3 & -1 \end{bmatrix}$,

then A + 10 B + 10 C =

(i) $\begin{bmatrix} 73 & 6 \\ -115 & -55 \end{bmatrix}$ (ii) $\begin{bmatrix} 73 & 3 \\ -115 & -56 \end{bmatrix}$ (iii) $\begin{bmatrix} 73 & 3 \\ -115 & -55 \end{bmatrix}$

(iv) $\begin{bmatrix} 73 & 3 \\ -115 & -54 \end{bmatrix}$ (v) $\begin{bmatrix} 73 & 3 \\ -118 & -55 \end{bmatrix}$

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21. Find the additive identity of matrix A = $\begin{bmatrix} -4 & 2 \\ 4 & -8 \end{bmatrix}$

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

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

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22. Find the additive identity of matrix A = $\begin{bmatrix} 0 & 3 & -4 \\ -4 & -2 & 4 \\ -1 & 2 & 3 \end{bmatrix}$

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

(iv) $\begin{bmatrix} 0 & 1 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{bmatrix}$ (v) $\begin{bmatrix} 0 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{bmatrix}$

Assignment Key

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