

ICSE- X

Topic : Arithmetic Progressions

Marks : 25

---

1. If 3, 7, 11, 15, ..... are in A.P. then  $d =$    
a) 3                      b) 4                      c) 6                      d) -4
2. If  $T_4 = 10$  and  $T_8 = 30$ ,  $d =$    
a) 10                      b) 8                      c) 5                      d) not defined
3. 87, 83, 79, 75, ..... are in A.P. then  $T_n =$    
a)  $91 - 4n$                       b)  $4n - 91$                       c)  $91 + 4n$                       d) none of these
4. The sum of  $n$  terms of an A.P. is  $3n^2 + 5n$ , then 164 is its   
(a) 24<sup>th</sup> term                      (b) 27<sup>th</sup> term                      (c) 26<sup>th</sup> term                      (d) 25<sup>th</sup> term
5. If the  $n^{\text{th}}$  term of an A.P. is  $2n + 1$ , then the sum of first  $n$  terms of the A.P. is   
(a)  $n(n - 2)$                       (b)  $n(n + 2)$                       (c)  $n(n + 1)$                       (d)  $n(n - 1)$
6. If 18<sup>th</sup> and 11<sup>th</sup> term of an A.P. are in the ratio 3 : 2, then its 21<sup>st</sup> and 5<sup>th</sup> terms are in the ratio   
(a) 3 : 2                      (b) 3 : 1                      (c) 1 : 3                      (d) 2 : 3
7. The sum of first 20 odd natural numbers is..... (   
(a) 100                      (b) 210                      (c) 400                      (d) 420
8. If  $k$ ,  $2k - 1$  and  $2k + 1$  are three consecutive terms of an AP, the value of  $k$  is   
(a) - 2                      (b) 3                      (c) - 3                      (d) 6
9. The next term of the A.P.  $\sqrt{7}$ ,  $\sqrt{28}$ ,  $\sqrt{63}$    
(a)  $\sqrt{70}$                       (b)  $\sqrt{84}$                       (c)  $\sqrt{97}$                       (d)  $\sqrt{112}$
10. The first three terms of an A.P. respectively are  $3y - 1$ ,  $3y + 5$  and  $5y + 1$ . Then,  $y$  equals   
(a) - 3                      (b) 4                      (c) 5                      (d) 2
11. The sum of first  $n$  odd natural numbers is   
(a)  $2n - 1$                       (b)  $2n + 1$                       (c)  $n^2$                       (d)  $n^2 - 1$
12. Two A.P.'s have the same common difference. The first term of one of these is 8 and that of the other is 3. The difference between their 30<sup>th</sup> terms is   
(a) 11                      (b) 3                      (c) 8                      (d) 5
13. If 18,  $a$ ,  $b$ , -3 are in A.P., the  $a + b =$    
(a) 19                      (b) 7                      (c) 11                      (d) 15

**14.** The sum of  $n$  terms of two A.P.'s are in the ratio  $5n + 9 : 9n + 6$ . Then, the ratio of their 18<sup>th</sup> term is

- (a)  $\frac{179}{321}$       (b)  $\frac{178}{321}$       (c)  $\frac{175}{321}$       (d)  $\frac{176}{321}$

**15.** The  $n^{\text{th}}$  term of an A.P., the sum of whose  $n$  terms is  $S_n$ , is

- (a)  $S_n + S_{n-1}$       (b)  $S_n - S_{n-1}$       (c)  $S_n + S_{n+1}$       (d)  $S_n - S_{n+1}$

**16.**  $n^{\text{th}}$  term of an A.P. is  $T_n$  then common difference is

- a)  $d = t_n - t_{n-1}$       b)  $d = t_{n-1} - t_n$       c)  $d = t_{n+1} - t_n$       d) all of these

**17.** The angles of a triangle are in AP if greatest angle is twice of least, find least angle

- a) 40      b) 80      c) 60      d) 30

**18.** If the first term of an A.P. is 2 and common difference is 4, then the sum of its 40 terms is

- (a) 3200      (b) 1600      (c) 200      (d) 2800

**19.** If 7<sup>th</sup> and 13<sup>th</sup> terms of an A.P. be 34 and 64 respectively, then its 18<sup>th</sup> term is

- (a) 87      (b) 88      (c) 89      (d) 90

**20.** If the sum of  $P$  terms of an A.P. is  $q$  and the sum of  $q$  terms is  $p$ , then the sum of  $p + q$  terms will be

- (a) 0      (b)  $p - q$       (c)  $p + q$       (d)  $-(p + q)$

**21.** If the sum of  $n$  terms of an A.P. be  $3n^2 + n$  and its common difference is 6, then its first term is

- (a) 2      (b) 3      (c) 1      (d) 4

**22.** The first and last terms of an A.P. are 1 and 11. If the sum of its terms is 36, then the number of terms will be

- (a) 5      (b) 6      (c) 7      (d) 8

**23.** If the sum of  $n$  terms of an A.P. is  $3n^2 + 5n$  then which of its terms is 164?

- (a) 26<sup>th</sup>      (b) 27<sup>th</sup>      (c) 28<sup>th</sup>      (d) none of these.

**24.** If the sum of  $n$  terms of an A.P. is  $2n^2 + 5n$ , then its  $n^{\text{th}}$  term is

- (a)  $4n - 3$       (b)  $3n - 4$       (c)  $4n + 3$       (d)  $3n + 4$

**25.** If the sum of three consecutive terms of an increasing A.P. is 51 and the product of the first and third of these terms is 273, then the third term is

- (a) 13      (b) 9      (c) 21      (d) 17

1	B	2	C	3	A	4	B	5	B
6	B	7	C	8	B	9	D	10	C
11	C	12	D	13	D	14	A	15	B
15	A	17	C	18	A	19	C	20	D
21	A	22	B	23	B	24	C	25	C