Class X Mathematics Assignment

Topic: Arithmetic Progression

1. The n^{th} term of an A.P. is given by $a_n = 3 + 4n$. The common difference is

   (a) 7 (b) 3 (c) 4 (d) 1

2. 1. The sum of first n terms of an A.P. is given by $S_n = 3 + 4n$. The common difference is

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

3. 2. If p, q, r and s are in A.P. then r – q is

   (a) s – p (b) s – q (c) s – r (d) none of these

4. If the sum of three numbers in an A.P. is 9 and their product is 24, then numbers are

   (a) 2, 4, 6 (b) 1, 5, 3 (c) 2, 8, 4 (d) 2, 3, 4

5. The $(n - 1)^{th}$ term of an A.P. is given by 7,12,17, 22,... is

   (a) 5n + 2 (b) 5n + 3 (c) 5n – 5 (d) 5n – 3

6. The n^{th} term of an A.P. 5, 2, -1, -4, -7 ... is

   (a) 2n + 5 (b) 2n – 5 (c) 8 – 3n (d) 3n – 8

7. The 10^{th} term from the end of the A.P. -5, -10, -15,..., -1000 is

   (a) -955 (b) -945 (c) -950 (d) -965

8. Find the sum of 12 terms of an A.P. whose nth term is given by $a_n = 3n + 4$

   (a) 262 (b) 272 (c) 282 (d) 292

9. The sum of all two digit odd numbers is

   (a) 2575 (b) 2475 (c) 2524 (d) 2425

10. The sum of first n odd natural numbers is

    (a) $2n^2$ (b) 2n + 1 (c) 2n – 1 (d) n^2

11. If $(p + q)^{th}$ term of an A.P. is m and $(p - q)^{tn}$ term is n, then pth term is

    (a) mn **(b)** $\sqrt{mn}$

    (c) $\frac{1}{2}(m - n)$ **(d)** $\frac{1}{2}(m + n)$

12. If a, b, c are in A.P. then $\frac{a-b}{b-c}$ is equal to

(a) 1 **(b)** $\frac{b}{a}$

(c) $\frac{a}{c}$ **(d)** $\frac{c}{a}$

13. The number of multiples lie between n and n^2 which are divisible by n is

(a) n + 1 (b) n (c) n – 1 (d) n – 2

14. If a, b, c, d, e are in A.P., then the value of a – 4b + 6c – 4d + e is

(a) 0 (b) 1 (c) -1. (d) 2

15. The next term of the sequence

$\frac{1}{1+\sqrt{x}}, \frac{1}{1-x}, \frac{1}{1-\sqrt{x}}$ **is** $(x \neq 1)$.

(a) $1+2\sqrt{x}$ **(b)** $1-2\sqrt{x}$

(c) $\frac{1-2\sqrt{x}}{1-x}$ **(d)** $\frac{1+2\sqrt{x}}{1-x}$

16. n^{th} term of the sequence a, a + d, a + 2d,... is

(a) a + nd (b) a – (n – 1)d

(c) a + (n – 1)d (d) n + nd

17. The 10th term from the end of the A.P. 4, 9,14, ..., 254 is

(a) 209 (b) 205 (c) 214 (d) 213

18. If 2x, x + 10, 3x + 2 are in A.P., then x is equal to

(a) 0 (b) 2 (c) 4 (d) 6

19. The sum of all odd integers between 2 and 100 divisible by 3 is

(a) 17 (b) 867 (c) 876 (d) 786

20. If the numbers a, b, c, d, e form an A.P., then the value of a – 4b + 6c – 4d + e is

(a) 0 (b) 1 (c) -1 (d) 2

21. If 7 times the 7^{th} term of an A.P. is equal to 11 times its 11^{th} term, then 18^{th} term is

(a) 18 (b) 9 (c) 77 (d) 0