

## 6. PROGRESSIONS

1. The  $n^{\text{th}}$  term of G.P is  $a_n = ar^{n-1}$  where 'r' represents \_\_\_\_\_
2. The  $n^{\text{th}}$  term of a G.P is  $2(0.5)^{n-1}$  then r \_\_\_\_\_
3. In the A.P 10, 7, 4 ----  $-62$ , then  $11^{\text{th}}$  term from the last is \_\_\_\_\_
4. \_\_\_\_\_ term of G.P  $1/3, 1/9, 1/27$  ---- is  $1/2187$
5.  $n-1, n-2, n-3, \dots$   $a_n =$  \_\_\_\_\_
6. In an A.P  $a = -7, d = 5$  then  $a_{18} =$  \_\_\_\_\_
7.  $2 + 3 + 4 + \dots + 100 =$  \_\_\_\_\_
8.  $-1, 1/4, 3/2, \dots$   $S_{81} =$  \_\_\_\_\_
9. In G.P,  $1^{\text{st}}$  term is 2, common ratio is  $-3$  then  $7^{\text{th}}$  term is \_\_\_\_\_
10.  $1, -2, 4, -8, \dots$  is a \_\_\_\_\_ Progression.
11. Common difference in  $1/2, 1, 3/2, \dots$  is \_\_\_\_\_
12.  $\sqrt{3}, 3, 3\sqrt{3}$  is a \_\_\_\_\_
13.  $a=1/3, d= 4/3$ , the  $8^{\text{th}}$  term of an A.P is \_\_\_\_\_
14. Arithmetic progression in which the common difference is 3. If 2 is added to every term of the progression, then the common difference of new A.P. is \_\_\_\_\_
15. In an A.P. first term is 8, common difference is 2, then \_\_\_\_\_ term becomes zero
16.  $4, 8, 12, 16, \dots$  is \_\_\_\_\_ series.
17. Next 3 terms in series  $3, 1, -1, -3$  are \_\_\_\_\_
18. If  $x, x+2$  &  $x+ 6$  are the terms of G.P. then  $x$  is \_\_\_\_\_
19. In G.P.  $a_{p+q} = m, a_{p-q} = n$ . Then  $a_p =$  \_\_\_\_\_
20. In  $3+6+12+24, \dots$ . Progression, the  $n^{\text{th}}$  term is \_\_\_\_\_
21.  $a_{12} = 37, d = 3$ , then  $S_{12} =$  \_\_\_\_\_
22. In the garden, there are 23 roses in the first row, in the 2nd row there are 19. At the last row there are 7 trees, \_\_\_\_\_ rows of rose trees are there in the garden.
23. From 10 to 250, \_\_\_\_\_ multiples of 4 are there.
24. The taxi takes Rs. 30 for 1 hour. After for each hour Rs. 10, for each hour. how much money can be paid & how it forms \_\_\_\_\_ progression
25. The sum of first 20 odd numbers is \_\_\_\_\_

26. 10, 7, 4, -----  $a_{30} =$  \_\_\_\_\_
27.  $1 + 2 + 3 + 4 + \dots + 100 =$  \_\_\_\_\_
28. In the G.P 25, -5, 1,  $-1/5$  -----  $r =$  \_\_\_\_\_
29. The reciprocals of terms of G.P will form \_\_\_\_\_
30. If  $-2/7$ ,  $x$ ,  $-7/2$  are in G.P. Then  $x =$  \_\_\_\_\_
31.  $1 + 2 + 3 + \dots + 10 =$  \_\_\_\_\_
32. If  $a$ ,  $b$ ,  $c$  are in G.P, then  $b/a =$  \_\_\_\_\_
33.  $x$ ,  $4x/3$ ,  $5x/3$ , .. $a_6 =$  .\_\_\_\_\_
34. In a G.P  $a_4 =$  \_\_\_\_\_
35.  $1/1000$ ,  $1/100$ ,  $1/10$ , 1 ----- are in \_\_\_\_\_
36. The 10<sup>th</sup> term from the end of the A.P;  
4, 9, 14 ----- 254 is \_\_\_\_\_
37. In a G.P.  $a_{n-1} =$  \_\_\_\_\_
38. In a A.P.  $S_n - S_{n-1} =$  \_\_\_\_\_
39.  $1.2 + 2.3 + 3.4 + \dots$  5 terms = \_\_\_\_\_
40. In a series  $a_n = \frac{n(n+3)}{n+2}$ ,  $a_{17} =$  \_\_\_\_\_
41. In -3,  $-1/2$ , 2 ----- A.P. then  $n^{\text{th}}$  term \_\_\_\_\_
42.  $a_3 = 5$  &  $a_7 = 9$ , then the A.P. is \_\_\_\_\_
43. The  $n^{\text{th}}$  term of the G.P.  $2(0.5)^{n-1}$ , then the common ratio = \_\_\_\_\_
44. In 4, -8, 16, -32 then the common ratio is \_\_\_\_\_
45. The  $n^{\text{th}}$  term  $t_n = \frac{n}{n+1}$  then  $t_4 =$  \_\_\_\_\_
46. In an A.P,  $l = 28$ ,  $S_n = 144$  & total terms are 9, then the first term is  
\_\_\_\_\_
47. In an A.P 11<sup>th</sup> term is 38 and 16<sup>th</sup> term is 73, then common  
difference of A.P is \_\_\_\_\_
48. In a garden there are 32 rose flowers in first row and 29 flowers in  
2nd row and 26 flowers in 3rd row, then \_\_\_\_\_ rose trees are there in  
the 6<sup>th</sup> row.
49. In -5, -1, 3, 7 ----- Progression, then 6<sup>th</sup> term is \_\_\_\_\_

50. In Arithmetic progression, the sum of  $n$ th terms is  $4n - n^2$ , then first term is \_\_\_\_\_

## ANSWERS

1) Common ratio; 2) 0.5; 3)  $-32$ ; 4) 7;  
5) 0; 6) 78; 7) 5049; 8) 3969; 9) 1458;  
10) GP; 11)  $1/2$ ; 12) GP; 13)  $29/3$ ; 14) 3; 15) 5<sup>th</sup> term;  
16) Arithmetic; 17)  $-5, -7, -9$ ; 18) 2; 19)  $\sqrt{mn}$ ; 20)  $3 \cdot 2^{n-1}$ ; 21) 246;  
22) 9; 23) 60; 24) Arithmetic progression; 25) 400; 26)  $-77$ ;  
27) 5050; 28)  $-1/5$  ;  
29) Geometric Progression; 30)  $\pm 1$ ;  
31) 55; 32)  $c/b$  ; 33)  $8x/3$ ; 34)  $ar^3$ ;  
35) G.P.; 36) 209; 37)  $ar^{n-2}$ ; 38)  $a_n$ ; 39) 70; 40)  $340/19$ ; 41)  
 $1/2(5n-11)$ ; 42) 3, 4, 5, 6, 7; 43) 0.5; 44)  $-2$ ; 45)  $4/5$ ; 46) 4;  
47) 7; 48) 17; 49) 15; 50) 3.