SUCCESS INSTITUTE Assignment - 55 10th Class Expert

Q1. Find the sum of the following APs :

(i) 2 , 7 , 12 , ... , to 10 terms. (ii) 1 , 3 , 5 , 7 , ... , to 12 terms. Ans. (i) 245 (ii) 144

(iii) 0.6 , 1.7 , 2.8 , ... , to 100 terms. (iv) $\frac{1}{15}$, $\frac{1}{12}$, $\frac{1}{10}$, ... , $to\ 11\ terms.$ Ans. (iii) 5505 (iv) $\frac{33}{20}$

(v) $-37, -33, -29, \ldots.$, to 12 terms. (vi) $-26, -24, -22, \ldots.$, to 36 terms. Ans. (v) -180 (vi) 324

Q2. Find the sum of the following APs :

(i) $7 + 10\frac{1}{2} + 14 + \ldots. + 84$ (ii) $34 + 32 + 30 + \ldots. + 10$ Ans. (i) $\frac{2093}{2}$ (ii) 246

(iii) $(-5) + (-8) + (-11) + \ldots. + (-230)$ (iv) $50 + 46 + 42 + \ldots. + 14$ Ans. (iii) -8930 (iv) 320

Q3. Find the sum of the first term 20 terms of the AP : 1 , 4 , 7 , ... Ans. 590

Q4. Find the sum of the first term 22 terms of the AP : 8 , 3 , -2 , ... Ans. -979

Q5. Given a = 5 , d = 3 , a_n = 50 , find n and S_n . Ans. n = 16 , $S_n = 440$

Q6. Given a = 7 , a_{13} = 35 , find d and S_{13} . Ans. d = $\frac{7}{3}$, $S_{13} = 273$

Q7. Given a_{12} = 37 , d = 3 , find a and S_{12} . Ans. a = 4 , $S_{12} = 246$

Q8. Given d = 5 , S_9 = 75 , find a and a_9 . Ans. a = $\frac{-35}{3}$, $S_{13} = \frac{85}{3}$

Q9. Given a = 3 , n = 8 , S = 192 , find d . Ans. d = 6

Q10. Given l = 28 , S = 144 , and there are total 9 terms. Find a. Ans. a = 4

Q11. Given a_3 = 15 , S_{10} = 125 , find d and a_{10} . Ans. d = -1 , $a_{10} = 8$

Q12. Given a = 2 , d = 8 , $S_n = 90$, find n and a_n . Ans. n = 5 , $a_n = 34$

Q13. Given a = 8 , $a_n = 62$, $S_n = 210$, $find\ n\ and\ d$. Ans. n = 6 , d = $\frac{54}{5}$

Q14. Given $a_n = 4$, d = 2 , $S_n = -14$, $find\ n\ and\ a$. Ans. n = 7, a = -8

Q15. If the first and last terms of an AP are 1 and 11 respectively and the sum is 36 , then find the number of terms and common difference. Ans. n = 6 , d = 2

Q16. If the first and last terms of an AP are 5 and 45 respectively and the sum is 400 , then find the number of terms and common difference. Ans. n = 16 , d = $\frac{8}{3}$

Q17. If the first and last terms of an AP are 2 and 29 respectively and the sum is 155 , then find the number of terms and common difference. Ans. n = 10 , d = 3

Q18. The first and last term of an AP are 17 and 350 respectively. If the common difference is 9 , how many terms are there in AP and what is their sum ? Ans. n = 38 , S = 6973

Q19. The 5^{th} and 15^{th} terms of an AP are 13 and -17 respectively. Find the sum of first 21 terms of the AP. Ans. -105

Q20. The 2^{nd} and 3^{rd} terms of an AP are 14 and 18 respectively. Find the sum of first 51 terms of the AP. Ans. 5610