SUCCESS INSTITUTE Assignment - 51 10^{th} Class Expert

Q1. Write first four terms of the AP, when the first term a and the common difference d are given as follows :

(i) $a = 10$ $d = 10$ (ii) $a = -2$ $d = 0$ (iii) $a = 4$ $d = -3$

(iv) $a = -1$ $d = \frac{1}{2}$ (v) $a = -1 \cdot 25$ $d = -0.25$

Q2. For the following AP s ,write the first term and the common difference :

(i) $3, 1, -1, -3, \ldots\ldots$ (ii) $-5, -1, 3, 7, \ldots\ldots$ (iii) $\frac{1}{3}, \frac{5}{3}, \frac{9}{3}, \frac{13}{3}, \ldots\ldots$

(iv) $0 \cdot 6, 1 \cdot 7, 2 \cdot 8, 3 \cdot 9, \ldots\ldots$ (v) $\frac{3}{2}, \frac{1}{2}, -\frac{1}{2}, \frac{-3}{2}, \ldots\ldots$

Q3. Which of the following are AP s ? If they form an AP , find the common difference d and write three more terms.

(i) $2, 4, 8, 16, \ldots\ldots$ (ii) $2, \frac{5}{2}, 3, \frac{7}{2}, \ldots\ldots$ (iii) $-1.2, -3.2, -5.2, -7.2, \ldots\ldots$

(iv) $-10, -6, -2, 2, \ldots\ldots$ (v) $3,\ 3+\sqrt{2},\ 3+2\sqrt{2},\ 3+3\sqrt{2}$ (vi) $0.2,\ 0.22,\ 0.222,\ 0.2222, \ldots\ldots$

(vii) $0, -4, -8, -12, \ldots\ldots$ (viii) $-\frac{1}{2}, -\frac{1}{2}, -\frac{1}{2}, -\frac{1}{2}, \ldots\ldots$ (ix) $1, 3, 9, 27, \ldots\ldots$

(x) $a, 2a, 3a, 4a, \ldots\ldots$ (xi) $a, a^2, a^3, a^4, \ldots\ldots$ (xii) $\sqrt{2}, \sqrt{8}, \sqrt{18}, \sqrt{32}, \ldots\ldots$

$(xiii)$ $\sqrt{3}, \sqrt{6}, \sqrt{9}, \sqrt{12}, \ldots\ldots$ (xiv) $1^2, 3^2, 5^2, 7^2, \ldots\ldots$ (xv) $1^2, 5^2, 7^2, 73, \ldots\ldots$

Q4. Find the 10^{th} term of the AP : 2, 7, 12, ... Ans. 47

Q5. Find the 10^{th} term of the AP : 1, 4, 7, 10, ... Ans. 28

Q6. Find the 8^{th} term of the AP : 117, 104, 91, 78, ... Ans. 26

Q7. Find the 10^{th} term of the AP : $-40, -15,\ 10,\ 35, \ldots$ Ans. 185

Q8. Find the 18^{th} term of the AP : $\sqrt{2},\ 3\sqrt{2},\ 5\sqrt{2}, \ldots$ Ans. $35\sqrt{2}$

Q9. Find the 11^{th} term of the AP : 10, 10.5, 11, 11.5, ... Ans. 15

Q10. Find the 9^{th} term of the AP : $\frac{3}{4}, \frac{5}{4}, \frac{7}{4}, \frac{9}{4}, \ldots$ Ans. $\frac{19}{4}$

Q11. Find the 11^{th} term of the AP : $-3,\ -\frac{1}{2},\ 2, \ldots$ Ans. 22

Q12. Which term of the AP : 3 , 8 , 13 , 18, ... is 78 ? Ans. $16^{\text{th}}\ term$

Q13. Which term of the AP : 21 , 18, 15, ... is -81 ? Ans. $35^{\text{th}}\ term$

Q14. Which term of the AP : 84 , 80 , 76 , ... is 0 ? Ans. $22^{nd}\ term$

Q15. Which term of the AP : 4 , 9 , 14 , 19 , ... is 124 ? Ans. $25^{\text{th}}\ term$

Q16. Which term of the AP : 21 , 42 , 63 , 84 , ... is 420 ? Ans. $20^{\text{th}}\ term$