CLASS X – MATHEMATICS – CHAPTER 05

ARITHMETIC PROGRESSION

Name: Date:

CHOOSE THE CORRECT OPTION FROM QUES 1 TO 8

Q01. The next term of the AP in 1^2, 5^2 ,7^2 ,73 ..... is

(a) 97 (b) 92 (c) 99 (d) 95

Q02. The 10^{th} term of the AP in 2, 7, 12, ... is

(a) 45 (b) 47 (c) 48 (d) 50

Q03. The 11^{th} term of the AP in –3, $-\frac{1}{2}$, 2, ... is

(a) 28 (b) 22 (c) –38 (d) 10

Q04. If 17^{th} term of an A.P exceeds its 10^{th} term by 7. The common difference is

(a) 2 (b) –1 (c) 3 (d) 1

Q05. The n^{th} term of the AP in 2, 5, 8, ... is

(a) 3n – 1 (b) 2n – 1 (c) 3n – 2 (d) 2n – 3

Q06. If a, (a – 2) and 3a are in AP than value of a is

(a) –3 (b) –2 (c) 3 (d) 2

Q07. The Sum of first n positive integers is given by

(a) $\frac{n(2n-1)}{2}$ (b) $\frac{n(2n+1)}{2}$ (c) $\frac{n(n+1)}{2}$ (d) none of these

Q08. If in any AP, A = –18.9, d = 2.5, an = 3.5 then the value of n is

(a) = 5 (b) =7 (c) =10 (d) = 9

Q09. Find the first term and the common difference $\frac{1}{3}, \frac{5}{3}, \frac{9}{3}$.....

Q10. Find the 12^{th} term of the AP $\sqrt{2}, 3\sqrt{2}, 5\sqrt{2}$.....

Q11. Find the sum of first 11 terms of AP 2, 6, 10.....

Q12. Find the sum of AP in 5 + (–8) + (–11) +.....+ (–230)

Q13. Find the sum to n term of the AP in 5, 2, –1, –4, –7.....

Q14. How many terms are there in A.P? 18, $\frac{31}{2}$, 13, ..., –47

Q15. Is [√3, √6, √9], ... form AP.

Q16. Which is the next term of the AP $\sqrt{2}, \sqrt{8}, \sqrt{18}, \sqrt{32}$,.....

Q17. Find the 11thterm from the last term of the AP 10, 7, 4,……,–62

Q18. For what value of n are the nth term of the following two AP's are same [13, 19, 25…and 69, 68, 67,…]

Q19. Check whether 301 is a term of the list of number [5, 11, 17, 32…….]

Q20. In the AP, find the missing terms in the space [__ , 13, __ , 3].

Q21. If x +1, 3x, and 4x + 2are in A.P. Find the value of x

Q22. Find the sum of first n odd natural no.

Q23. Determine the AP whose third term is 16 and the 7th term exceeds the 5th term by 12.

Q24. Find the sum of first hundred even natural no. divisible by 5.

Q25. Find [$a_{30} - a_{20}$] for the A.P [–9,–14,–19,–24,.....]

Q26. The first term of an AP is –7 and common difference 5. Find its general term

Q27. In an A.P the sum of first n terms is $\frac{3n^2}{2} + \frac{13n}{2}$. Find its 2nd term.

Q28. Which term of the sequence 20, $19\frac{1}{4}$, $18\frac{1}{2}$, $17\frac{3}{4}$ is the first negative term?

Q29. The pth term of an AP is q and qth term is p. Find its (p + q)th term.

Q30. The 17th term of an AP exceeds its 10th term by 7. Find the common difference

Q31. Find the sum of first n positive integers.

Q32. In AP, given l = 28, S = 144 and there are total 9 terms. Find a.

Q33. In an A.P, the sum of first n terms is $\frac{3n^2}{2} + \frac{5n}{2}$. Find its 25th term.

Q34. Which term of the arithmetic progression [8, 14, 20, 26…] will be 72 more than its 41st term.

Q35. The ratio of the sum of n terms of two AP's is [(5n + 4):(9n + 6)], find the ratio of their 18th term.

Q36. If the sum of n terms of an AP is $3n^2$+ 5n and its mth term is 164, find the value of m

Q37. If the sum of three no. in AP, be 24 and their product is 440, find the no.

Q38. Show that sequence defined by a_n= 3+2n is an AP

Q39. In an AP, a_n = 4, d = 2,s_n= –14.find n and a

Q40. For the A.P a_1, a_2 ,a_3, …… if $\frac{a_4}{a_7} = \frac{2}{3}$, find $\frac{a_6}{a_8}$.

Q41. Find the sum of first 24 terms of the list of number whose nth term is given by [a_n = 3 + 2n]

Q42. Find the sum of all integers between 84 and 719 which are multiples of 5.

Q43. The sum of the 4th and 8th terms of an AP is 24 and the sum of the 6th and 10thterms is 44. Find the first three terms of the AP.