Arithmetic Progressions

Important Qs Very Short Answer (1 Mark)

Q 1. Find the common difference of the AP $1p,1-pp,1-2pp,\ldots$

Q 2. Find the common difference of the A.P. $12b,1-6b2b,1-12b2b,\ldots$

Q 3. Find the common difference of the A.P. $13q,1-6q3q,1-12q3q,\ldots$

Q 4. Calculate the common difference of the A.P. $1b,3-b3b,3-2b3b,\ldots$

Q 5.Calculate the common difference of the A.P. $13,1-3b3,1-6b3,\ldots$

Q 6.What is the common difference of an A.P. in which $a_{21} - a_7 = 84$?

Q 7.Find the 9th term from the end (towards the first term) of the A.P. $5,9,13, \ldots,$

Important Qs Short Answer-I (2 Marks)

Q 8.The angles of a triangle are in A.P., the least being half the greatest. Find the angles.

Q 9.Find whether -150 is a term of the A.P. 17, 12, 7, 2, … ?

Q 10.Which term of the progression 4, 9, 14, 19, … is 109?

Q 11.Which term of the progression 20, 192, 183, 17 … is the first negative term?

Q 12.The 4th term of an A.P. is zero. Prove that the 25th term of the A.P. is three

Q 13.The 7th term of an A.P. is 20 and its 13th term is 32. Find the A.P.

Q 14.Find 10th term from end of the A.P. 4,9, 14, …, 254.

Q 15.Find how many two-digit numbers are divisible by 6?

Q 16.How many natural numbers are there between 200 and 500, which are divisible by 7?

Q 17.How many two-digit numbers are divisible by 3?

Q 18.How many three-digit natural numbers are divisible by 7?

Q 19.Find the number of all three-digit natural numbers which are divisible by 9.

Q 20.Find the number of natural numbers between 101 and 999 which are divisible by both 2

and 5.

Q 21.Find the middle term of the A.P. 6, 13, 20, …, 216.

Q 22.Find the middle term of the A.P. 213, 205, 197, … 37.

Q 23.How many terms of the A.P. 27, 24, 21, … should be taken so that their sum is zero?

Q 24.How many terms of the A.P. 65, 60, 55, … be taken so that their sum is zero?

Q 25.Find the sum of the first 25 terms of an A.P. whose n^{th} term is given by $t_n = 2 - 3n$.

Q 26.The first and the last terms of an AP are 5 and 45 respectively. If the sum of all its terms is

400, find its common difference.

Q 27.The first and the last terms of an AP are 8 and 65 respectively. If the sum of all its terms is

730, find its common difference.

Q 28.In an AP, if $S_5 + S_7 = 167$ and $S_{10} = 235$, then find the AP, where s, denotes the sum of its first

n terms.

Q 29. Arithmetic Progressions Class 10 Important Qs Short Answer – II (3 Marks)

Q 30.Which term of the A.P. 3, 14, 25, 36, … will be 99 more than its 25th term?