Delhi Public School, Howrah

Question Bank

Class-X

Subject: Mathematics

Topic: Arithmetic Progression

1. Find the tenth term of the sequence $\sqrt{2}, \sqrt{8}, \sqrt{18}, \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots$
2. If the common difference of an A.P. is -6, find the value of a_{16}-a_{12}, where a_n represents the nth term of the A.P.
3. For what value of k will the consecutive terms 2k+1,3k+3 and 5k-1 form an A.P.?
4. Find the first four terms of an A.P. whose first term is 3x+y and common difference is x-y.
5. Find the 7th term from end of the A.P. 7,10,13,……,184.
6. In a certain A.P. ,32th term is twice the 12th term. Prove that 70th term is twice the 31st term.
7. The sum of the first n terms of an A.P. is given by $S_n=2n^2+8n$.Find the sixteenth term of the A.P.
8. Find the sum of first ten multiples of 5.
9. If the sum of first k terms of an A.P. is $3k^2$-k and its common difference is 6,find the first term.
10. Write the nth term of the A.P. $\frac{1}{m}, \frac{1+m}{m}, \frac{1+2m}{m}, \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots$
11. How many terms of the A.P. 27,24,21,……. should be taken so that their sum is zero?
12. If S_n denotes the sum of first n terms of an A.P. whose common difference is d and first term is a, find S_n-$2S_{n-1}$+S_{n-2}.
13. The first and last term of an A.P. are 5 and 45 respectively.If the sum of all its terms is 400,find its common difference.
14. If the pth term of an A.P. is $\frac{1}{q}$ and q^{th} term is $\frac{1}{p}$, prove that the sum of first pq terms is $\frac{pq+1}{2}$.
15. If S_1,S_2,S_3 be the sum of n,2n,3n terms respectively of an A.P.,prove that $S_3=3(S_2-S_1)$.