

ACHIEVERS FOUNDATION

Arithmetic Progressions

WORK SHEET

Very Short Answer Questions

- 1) The common difference of the AP $1/P, (1-P)/P, (1-2P)/P$ is
- 2) The first three terms of an AP respectively are $3y-1, 3y+5$ and $5y+1$. Then Y equals.
- 3) If $k, 2k-1$ and $2k+1$ are three consecutive terms of an AP the value of k is.
- 4) Find the middle term of AP $6,13,20,\dots,216$.

Short Answer Questions

- 5) Find the number of terms of the AP $18, 15.5, 13,\dots,-49.5$ and find the sum of all its terms.
- 6) 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.
- 7) If the seventh term of an AP is $1/9$ and its 9th terms is $1/7$, find its 63rd term.
- 8) Find the number of natural numbers between 101 and 999 which are divisible by both 2 and 5.
- 9) The sum of the 5th and the 9th terms of an AP is 30. If its 25th term is three times its 8th term, find the AP.
- 10) Which term of the AP : $3, 10, 17,\dots$ will be 84 more than its 13th term?

Long Answer Questions

- 11) If the sum of first 7 terms of an AP is 49 and that of first 17 terms is 289, find the sum of its first n terms.
- 12) In an AP of 50 terms, the sum of first 10 terms is 210 and the sum of its last 15 terms is 2565. Find the AP.
- 13) In a school, students decided to plant trees in and around the school to reduce air pollution. It was decided that the number of trees, that each section of each class will plant, will be double of the class in which they are studying. If there are 1 to 12 classes in the school and each class has two sections, find how many trees were planted by the students. Which value is shown in this question?
- 14) The ratio of the sums of first m and first n terms of an AP is m^2 / n^2 . Show that the ratio of its mth and nth terms is $(2m-1)/(2n-1)$.
- 15) If the pth term of an A.P. is $\frac{1}{q}$, and qth term of an A.P. is $\frac{1}{p}$, then show that the sum of its first (pq) term is $1/2 (pq+1)$.