

Learnyz Academy

Worksheet: Arithmetic Progression

1. If the common difference of an AP is 3, then what is $a_{15} - a_9$?
2. A person saves ₹500 in the first month and increases savings by ₹100 every month. How much does he save in the 12th month?
3. The minimum age of children to be eligible to participate in a painting competition is 8 years. It is observed that the age of youngest boy was 8 years and the ages of rest of participants are having a common difference of 4 months. If the sum of ages of all the participants is 168 years, find the age of eldest participant in the painting competition.
4. If $1 + 4 + 7 + 10 + \dots + x = 287$, find the value of x .
5. The sum of first 16 terms of the AP: 10, 6, 2, ... is
6. If the ratio of the sum of the first n terms of two A.Ps is $(7n + 1) : (4n + 27)$, then find the ratio of their 9th terms.
7. Yasmeen saves Rs.32 during the first month, Rs.36 in the second month and Rs.40 in the third month. If she continues to save in this manner, in how many months she will save Rs.2000, which she has intended to give for the college fee of her maid's daughter. What value is reflected here.
8. If p, q, r and s are in A.P. then $r - q$ is
9. For what value of k will $k + 9, 2k - 1$ and $2k + 7$ are the consecutive terms of an A.P.?
10. The sum of all two digit odd numbers is
11. How many multiples of 4 lie between 10 and 250? Also find their sum.
12. Which term of the A.P. 3, 8, 13, 18, ... is 78?
13. Find the 17th term from the end of the AP: 1, 6, 11, 16 211, 216.
14. An AP consists of 50 terms of which 3rd term is 12 and the last term is 106. Find the 29th term.
15. Find the middle term of the sequence formed by all three-digit numbers which leave a remainder 3, when divided by 4. Also find the sum of all numbers on both sides of the middle term separately.
16. Find the common difference of an A.P. whose first term is 5 and the sum of its first four terms is half the sum of the next four terms.
17. Find the 9th term from the end (towards the first term) of the A.P. 5,9,13, ,185.
18. Find the value of m so that $m + 2, 4m - 6$ and $3m - 2$ are three consecutive terms of an AP.

- 19.** 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?
- 20.** The 4th term of an A.P. is zero. Prove that the 25th term of the A.P. is three times its 11th term.