Common mistakes & How to avoid
X-Math

Chapter: Arithmetic Progressions

Type of Question	Common Errors	Points to be careful about
Finding K^{th} term from the end. Find number of terms , given the general term find the sum of n terms	1)Students generally get confused by the terminology 'kth term from the end'. Instead, they find the 'kth term from the beginning' or they find the total number of terms I and then count which term is the 10th term from last. This later method is time consuming. 2) Students also tend to confuse the nth term and 'n' 3) Not able to decide which formula will be applicable	1) While finding the kth term from the end of an A.P., consider the A.P. in the reverse order.i.e. the new A.P. has the last term of the original A.P. as its first term and the negative of the common difference of the original A.P. as its common difference. Then find the Kth term from the beginning of the new A.P. This will be the Kth term from the end of the original A.P. For example: 10th term from end of the A.P. 4, 9, 14,..254 (a = 4, d =5) is the 10th term from the beginning of the A.P.254, 249,…,14,9,4 (a=254, d=-5) 2. It should be clear to you that in place of the nth term, you must put the value of the nth term. And in place of 'n' you have to put the number of that term

		3) Three things determine an AP First term, common difference and number of terms knowing these you can find the AP. Depending on data given apply the appropriate formula and find the unknowns. Be careful with calculations
Word Problems on A.P.	Students are generally not able to identify the application of Arithmetic progression in a word problem.	Read the question carefully, analyse the give data. If you are given an initial value which changes in a particular pattern, then you have to apply arithmetic progression to solve it. For example: In a flower bed, there are 31 rose plants in the first row, 28 in the second, 25 in the third, and so on. There are 7 rose plants in the last row. How many rows are there in the flower bed? In the above question, the initial value given is 31. Then the numbers of roses keep decreasing by 3 every time. This will form an A.P. with first term 31 and common difference -3. The total number of terms in the A.P. is 7. We need to find the sum of all the terms in the A.P.