Practice Challenge - Subjective

Subject: Mathematics

Topic : Arithmetic Progressions
Exam Prep 1 Class: X

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1. If the sum of first 7 terms of an AP is 49 and that of 17 terms is 289, find the sum of first n terms.

2. Check whether -150 is a term of the AP: 11,8,5,2…

3. Write first four terms of the AP, when the first term a and common difference d are given as follows:
   (i) a= -2, d=0
   (ii) a=4, d=-3
   (iii) a= -1.25, d= -0.25

4. Determine the AP whose third term is 16 and the 7^{th} term exceeds the 5^{th} term by 12.

5. The ratio of the sums of m and n terms of an A.P. is $m^2 : n^2$. Show that the ratio of the m^{th} and n^{th} term is $(2m-1) : (2n-1)$.

6. In the following APs, find the missing term in the boxes.

   (i) 2, $\square$, 26

7. If the sum of the first 2n terms of the AP 2, 5, 8, ... is equal to the sum of the first n terms of A.P. 57, 59, 61, ... then what is the value of n?

8. The sum of n terms of an A.P is written as $S_n = pn + qn^2$. What is the common difference d of the A.P.?