

CLASS 10 · HOTS · OLYMPIAD PREPARATION · DPP SHEET

Chapter 5: HOTS: Arithmetic Progressions (Class 10)

Daily practice problems: 8 questions with an answer key

Try every question on your own first. The answer key is on the last page.

1. Find the sum of all three-digit numbers divisible by 9.
2. The 9th term of an AP is 0. Show that its 29th term is twice its 19th term.
3. The sum of the first 5 terms of an AP is 40 and the sum of the first 12 terms is 222. Find the AP.
4. Three numbers are in AP with sum 27 and product 693. Find them.
5. Find the sum of all multiples of 6 between 100 and 200.
6. Which term of the AP 21, 42, 63, ... is 420?
7. A sum of Rs 700 is to be used to give seven cash prizes, each prize Rs 20 less than the one before. Find the value of the first prize.
8. A person starts a job at Rs 8000 a month and the salary rises by Rs 500 each year. What is the monthly salary in the 6th year?

Answer Key

1. 55 350 (the numbers are 108, 117, ..., 999, which are 100 numbers).
2. $a = -8d$, so $a_{29} = 20d$ and $a_{19} = 10d$.
3. $a = 2$ and $d = 3$, so the AP is 2, 5, 8, 11, ...
4. 7, 9, 11 (or 11, 9, 7).
5. 2550 (17 terms from 102 to 198).
6. The 20th term.
7. Rs 160.
8. Rs 10 500.

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