## Important Questions - Arithmetic Progressions

 10th Standard CBSE
## Maths

Reg.No. $\square$
Time : 01:00:00 Hrs

Total Marks: 50

## Section - A

1) A sequence $a_{1}, a_{2}, a_{3}, \ldots \ldots$. is an A.P. if and only if $a_{n}$ is a $\qquad$ expression in n .
2) Find the nextterm ofthe series $\sqrt{2}, \sqrt{8}, \sqrt{18}, \sqrt{32} \ldots$
3) What is the next term of an AP. $\sqrt{7}, \sqrt{28}, \sqrt{63}, \ldots \ldots$ ?
4) Find the $25^{\text {th }}$ term of the AP. $-5,-5 / 20,5 / 2, \ldots \ldots . . . . . . .$.
5) Find the $37^{\text {th }}$ term of the A.P. $\sqrt{x}, 3 \sqrt{x}, 5 \sqrt{x}, \ldots$
6) For an A.P.,if $a_{25}-a_{20}=45$, then find the value of $d$.
7) Find the sum of first 16 terms of the A.P. $10,6,2, \ldots \ldots$.
8) What is the sum of five positive integers divisible by 6 .
9) If the sum of first $k$ terms of an A.P.is $3 P-k$ and its common difference is 6 . What is the first term?
10) Find the 10 th term of $10.0,10.5,11.0,11.5, \ldots$

## Section - B

11) For the following APs, write the first term and the common difference: $-5,-1,3,7, \ldots \ldots$.
12) Determine $k$ so that $4 k+8,2 k^{2}+3 k+6$ and $3 k^{2}+4 k+4$ are three coonsecutive terms of an AP.
13) Find the sum of the following APs:
$2,7,12, \ldots .$, to 10 terms.
14) Find the sum of first 19 terms of an A.P. whose 8 th term is 41 and 13 th term is 61.
15) For A.P.show that $a_{p}+a_{p}+2_{q}=2 a_{p+q}$
16) If the $1^{\text {st }}$ term of a series is 7 and $13^{\text {th }}$ term is 35 . Find the sum of 13 terms of the sequence.
17) The sum of first $n$ terms of an A.P. is $5 n-n^{2}$. Find the $n^{\text {th }}$ term of the A.P.
18) $a_{1}, a_{2}, a_{3}, \ldots \ldots, a_{24}$ are in AP and $a_{1}+a_{5}+a_{10}+a_{15}+a_{20}+a_{24}=300$. Find the sum of first 24 terms of the AP.
19) If the sum of first fourteen terms of an A.P. is 1050 and its first term is 10 , find its 20 th term.
20) The sum of the first $n$ terms of an A.P. whose first term is 8 and the common difference is 20 is equal to the sum of first 2 n terms of another A.P. whose first term is -30 and the common difference is 8 . Find n .
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Section - C
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21) If the sum of first 4 terms of an AP is 40 and that of first 14 terms is 280 , find the sum of its $n$ terms.
22) Jaipal Singh repays the total loan of Rs 118000 by paying every month starting with the first instalment of Rs
23) Which of the following form an AP? Justify your answer.
(i) $1,1,2,2,3,3 \ldots$
(ii) $\sqrt{3}, \sqrt{12}, \sqrt{27}, \sqrt{48} \ldots$
24) In an A.P.of 50 terms, the sum of first 10 terms is 210 and sum of its last 15 terms is 2565 . Find the A.P.
