



INDIAN SCHOOL AL WADI AL KABIR

Class X, Mathematics

Worksheet- Arithmetic Progressions

01 - 11 - 2023

Q. No.	Questions of 1 Mark each. (MCQ's)							
1.	If $p - 1$, $p + 1$ and $2p + 3$ are in AP, then the value of p is:							
	A	-2	B	4	C	0	D	2
2.	The next term of the AP: $\sqrt{6}$, $\sqrt{24}$, $\sqrt{54}$ is:							
	A	$\sqrt{60}$	B	$\sqrt{96}$	C	$\sqrt{72}$	D	$\sqrt{216}$
3.	The number of terms in the AP $18, 15\frac{1}{2}, 13, \dots, -47$ is:							
	A	25	B	26	C	27	D	28
4.	If a, b, c forms an AP with common difference d , then the value of $a - 2b - c$ is equal to:							
	A	$2a + 4d$	B	0	C	$-2a - 4d$	D	$-2a - 3d$
5.	The 11th term from the end of the A.P. : $10, 7, 4, \dots, -62$ is :							
	A	25	B	16	C	-32	D	0
6.	The sum of first 100 natural numbers is:							
	A	1010	B	5050	C	5010	D	1050
7.	If the sum of first n terms of an AP be $3n^2 + n$ and its common difference is 6, then its first term is:							
	A	2	B	3	C	1	D	4
8.	Find the sum of the first 20 terms of the AP: $\frac{2}{3}, 0, \frac{-2}{3}, \frac{-4}{3}, \dots$							
	A	$\frac{17}{3}$	B	$\frac{-340}{3}$	C	-120	D	$\frac{-17}{3}$
9.	The first term of an A.P. is 5 and the last term is 45. If the sum of all the terms is 400, the number of terms is:							
	A	20	B	8	C	10	D	16

10.	The 9th term of the A.P. $-15, -11, -7, \dots, 49$ is:							
	A	32	B	0	C	17	D	13
11.	In an AP if $a = -7.2, d = 3.6, a_n = 7.2$, then n is:							
	A	1	B	3	C	4	D	5
12.	Two APs have the same common difference. The first term of one of these is -1 and that of the other is -8 . Then the difference between their 4th terms is:							
	A	-1	B	-8	C	7	D	-9
13.	In an AP if $a = 1, a_n = 20$ and $S_n = 399$, then n is:							
	A	19	B	21	C	38	D	42
14.	The value of p for which $(2p + 1), 10$ and $(5p + 5)$ are three consecutive terms of an AP is:							
	A	-1	B	-2	C	1	D	2
15.	The n th term of the A.P. $a, 3a, 5a, \dots$ is:							
	A	na	B	$(2n - 1)a$	C	$(2n + 1)a$	D	$2na$
DIRECTION: In the following questions, a statement of assertion (A) is followed by statement of Reason (R) . Choose the correct option								
<p>(a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A)</p> <p>(b) Both assertion (A) and reason (R) are true and reason (R) is not the correct explanation of assertion (A)</p> <p>(c) Assertion (A) is true but reason (R) is false.</p> <p>(d) Assertion (A) is false but reason (R) is true.</p>								
16.	<p>Assertion(A): Common difference of the AP $-5, -1, 3, 7, \dots$ is 4.</p> <p>Reason(R): Common difference of the AP $a, a + d, a + 2d, \dots$ is given by $d = 2^{\text{nd}} \text{ term} - 1^{\text{st}} \text{ term}$.</p>							

17.	Assertion(A): a, b, c are in A.P. if and only if $2b = a + c$. Reason(R): The sum of first n odd natural numbers is n^2 .							
18.	Assertion(A): Let the positive numbers a, b, c are in AP. Then $\frac{1}{bc}, \frac{1}{ac}, \frac{1}{ba}$ are also in AP. Reason(R): If each term of an AP is divided by abc, then the resulting sequence is also in AP.							
19.	Assertion(A): Common difference of an AP in which $a_{27} - a_7 = 84$ is 14. Reason(R): nth term of an AP is given by $a_n = a + (n - 1)d$							
20.	Assertion(A): Sum of first hundred even natural numbers divisible by 5 is 500. Reason(R): Sum of the first n terms of an AP is given by $S_n = \frac{n}{2}(a + l)$, where l is the last term.							
Answers								
Answers	1	C	2	B	3	C	4	C
	5	C	6	B	7	D	8	B
	9	D	10	C	11	D	12	C
	13	C	14	D	15	B	16	a
	17	b	18	a	19	d	20	d