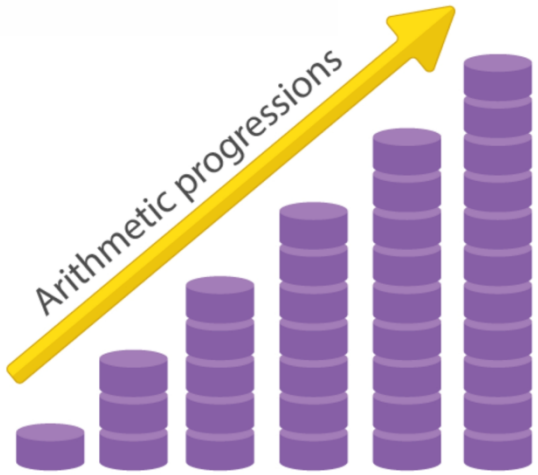
MATHEMATICS - 10TH

IMPORTANT MCQ'S – MATHS (10TH GRADE)



ARITHMETIC PROGRESSIONS

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Material Curated by
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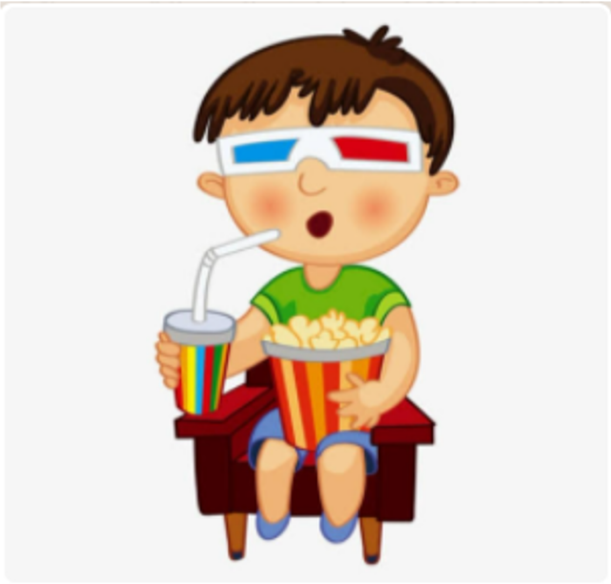
10th - Maths

SN		Marks
1	The students of a school decided to beautify the school on the Annual Day by fixing colourful flags on the straight passage of the school. They have 27 flags to be fixed at intervals of every 2 m. The flags are stored at the position of the middle most flag. Ruchi was given the responsibility of placing the flags. Ruchi kept her books where the flags were stored. She could carry only one flag at a time. What is the maximum distance she travelled carrying a flag? (a) 62 m (b) 26 m (c) 46 m (d) 52 m	3
	 Gaurang is a great movie geek and spent great time binge watching during lockdown. He watched 650 movies in the 15th year. Every year he watched 10 movies less than the previous year. Answer the following questions using the given information	5
2	Does the above situation form an A.P.? (a) YES (b) NO	1
3	How many movies did he watched in the first year? (a) 510 movies (b) 520 movies (c) 530 movies (d) None of the above	1
4	How many movies did he watched in the fifth year?	1

		(a) 560 movies (b) 540 movies (c) 550 movies (d) None of the above	
	5	In which year did he watched 630 movies? (a) 12th year (b) 13th year (c) 11th year (d) None of the above	1
	6	Is binge watching such a great number of movies good for health? (a) YES (b) NO	1
7		Find the sum of the first 40 positive integers divisible by 6. (a) 4910 (b) 4915 (c) 4918 (d) 4920	3
8		Which term of the sequence -1,3,7,11, ... is 95 ? (a) 10 (b) 15 (c) 20 (d) 25	1
		 There are 25 trees at equal distance of 5m from the wall planted by a gardener in the school premises. All the trees are planted in the line of the wall. The distance of the wall from the nearest tree is 10 m.The gardener starts watering all the trees from the tree nearest to the wall to the farthest one and comes. He waters each tree and comes back to the tap and refills his bucket and waters the next. Answer the following questions using the given passage.	5
	9	State the A.P. formed in terms of the distance covered by the gardener each time he waters the tree. (a) 5, 10, 15 and so on (b) 10, 20, 30 and so on (c) 10, 15, 20 and so on (d) 20, 30, 40 and so on	1
	10	State the A.P. formed in terms of the distance of the trees from the wall.	1

		(a) 5, 10, 15 and so on (b) 10, 20, 30 and so on (c) 10, 15, 20 and so on (d) 20, 30, 40 and so on	
	11	How much distance the garner needs to travel to water the 15th tree? (a) 160 m (b) 170 m (c) 180 m (d) 190 m	1
	12	What is the total distance required to be covered in order for watering the sixth tree? (a) 230 m (b) 240 m (c) 250 m (d) 270 m	1
	13	What is the total distance covered by the gardener? (a) 3400 m (b) 3500 m (c) 3600 m (d) 3700 m	1
	14	A pair of rabbits are too young to produce in their first month. In the second, and every subsequent month, they produce a new pair. Each new pair of rabbits produce a new pair in their second month and in every subsequent month. Assuming no rabbit dies, the number of pairs of rabbits at the start of the 6th month is _____. (a) 5 (b) 8 (c) 13 (d) 21	2
	15	In an AP, given a = 8, a_n = 62, S_n = 210, find n. (a) 8 (b) 7	2

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	(c) 5 (d) 6	
16	Is the following an AP ? – 10, – 6, – 2, 2, . . . (a) YES (b) NO	1
17	A sequence is said to be finite or infinite accordingly as it has a finite or infiníte number of terms. State true or false. (a) TRUE (b) FALSE	1
18	The first term of an AP is 3, the last term is 83 and the sum of all its terms is 903. Find the number of terms in A.P (a) 19 (b) 20 (c) 21 (d) 4	3
19	What is the common difference of an AP in which $a_{27} - a_7 = 84$? (a) 6 (b) 7 (c) 4.2 (d) 3	1
20	An AP consists of 50 terms of which 3rd term is 12 and the last term is 106. Find the 29th term. (a) 67 (b) 58 (c) 61 (d) 64	3
21	The sum of four consecutive numbers in an AP is 32 and the ratio of the product of the first and the last terms to the product of the two middle terms is 7 : 15. Find the numbers (a) -2, 6, 10, 14 (b) -2, -6, -10, -16 (c) 2, 6, 10, 14. (d) -2, 6, -10, 14	3
22	1, 2, 3, 4, 5, 6,... Is this a sequence ? (a) YES (b) NO	1
23	Check whether the list of numbers defined by the nth term t_n =5+ 6n is an AP or not. (a) YES (b) NO	2

24	If an AP have 8 as the first term and -5 as the common difference and its first three terms are 8, A, B, then (A + B) is equal to ? (a) 0 (b) -1 (c) 1 (d) 2	2
25	Assertion: The first term of an AP is m and its common difference is p, then the 13th term is a+ 10p. Reason: In an AP, $S_n - S_{n-1} = a_n$. (a) If both Assertion and Reason are correct and Reason is the correct explanation of Assertion. (b) If both Assertion and Reason are correct, but Reason is not the corect explanation of Assertion. (c) If Assertion is correct but Reason is incorrect. (d) If Assertion is incorrect but Reason is correct.	2
26	Let a be a sequence defined by $a_1 = 1, a_2 = 1$ and $a_n = a_{n-1} + a_{n-2}$ for all n › 2, then the value of $\frac{a_4}{a_3}$ is ? (a) $\frac{2}{3}$ (b) $\frac{5}{4}$ (c) $\frac{4}{5}$ (d) $\frac{3}{2}$	2
27	If the 3rd and the 9th terms of an AP are 4 and – 8 respectively, which term of this AP is zero? (a) 5th (b) 6th (c) 7th (d) 4th	3
28	Find where 0 (zero) is a term of the AP 40, 37, 34, 31, ... (a) 14th (b) 12nd (c) no term (d) 11st	1
29	A list of numbers arranged in a definite order according to some definite rule, is called a _____. (a) Series (b) Sequence	1
30	Assertion : Arithmetic mean between 8 and 12 is 10. Reason : Arithmetic mean between two numbers "a" and "b" is given as $\frac{a+b}{2}$ (a) Both A and R are true and R is the correct explanation of A. (b) Both A and R are true but R is not the correct explanation of A. (c) A is true but R is false. (d) A is false but R is true.	1

31	Find the first four terms of an AP, whose first term is -2 and the common difference is -2. (a) -2, -4, -6, -8 (b) -2, -4, -6, -10	2

6

Kriti started saving money for her new project. She started saving Rs. 24 for the first month, Rs. 30 in the second month, Rs. 36 in the third month and so on. She continues to save in this manner from quite some time.

32	Which of the following is true for the pattern followed by Krit? (a) An A.P. with a=24 and d=6 (b) An A.P. with a=30 and d=6 (c) An A.P. with a=24 and d=4 (d) None of the above	1
33	In which month will she save Rs. 66? (a) 6 (b) 8 (c) 9 (d) 10	1
34	What will be the amount be saved by her in 15th month? (a) Rs. 105 (b) Rs. 102 (c) Rs. 108 (d) Rs. 114	1
35	What is the common difference between the savings made by Kriti every month? (a) Rs. 5 (b) Rs. 6 (c) Rs. 7 (d) Rs. 8	1

	36	Does savings help on a later note? (a) YES (b) NO	1
	37	Which values do you learn from Kriti? (a) Savings are good (b) Futurisitic Approach (c) All of the above	1
38		The sum of the first five terms of an AP and the sum of the first seven terms of the same AP is 167. If the sum of the first ten terms of this AP is 235, find the sum of its first twenty terms. (a) -970 (b) 970 (c) 940 (d) 907	2
39		Find the sum of the following arithmetic progression 50, 46, 42, ... to 10 terms. (a) 320 (b) 144 (c) 525 (d) 162	1
40		Assertion : If Sn is the sum of the first n terms of an A.P., then its nth term an is given by $a_n = S_n - S_{n-1}$ Reason : The 10th term of the A.P. 5, 8, 11, 14, ... is 35 (a) Both Assertion and Reason is correct and reason is correct explanation of Assertion (b) Both Assertion and Reason is correct and reason is not correct explanation of Assertion (c) Assertion is true but Reason is false. (d) Both Assertion and Reason is False	1
41		Find the sum of the first 1000 positive integers. (a) 500100 (b) 500500 (c) 501000 (d) None of the above	1
42		Two arithmetic progressions have the same common difference. The difference between their 100th terms is 100, what is the difference between their 1000th terms ? (a) 80 (b) 85 (c) 95 (d) 100	2
43		Find the sum of those integers between 1 and 500 which are multiples of 2 as well as of 5.	2

	(a) 12250	(b) 12520	
	(c) 15220	(d) 15202	

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MATHEMATICS - 10TH

IMPORTANT MCQ'S – MATHS (10TH GRADE)

ARITHMATIC PROGRESSION

1	2	3	4	5	6	7	8
B	A	A	C	B	B	D	D
9	10	11	12	13	14	15	16
D	C	A	D	B	B	D	A
17	18	19	20	21	22	23	24
A	C	C	D	C	A	A	C
25	26	27	28	29	30	31	32
D	D	A	C	B	A	A	A
33	34	35	36	37	38	39	40
B	C	B	A	C	B	A	C
41	42	43	44	45	46	47	48
B	D	A	-	-	-	-	-