Averages

Model 1: Basic Average

1. What is the average of the following set of numbers?

   302, 152, 132, 122, 112

   1) 184 2) 165 3) 152 4) 176 5) None of these

2. Find the average of the following sets of scores.

   198, 309, 256, 488, 145, 326, 427

   1) 307 2) 10132 3) 11320 4) 11230 5) None of these

3. If 25a + 25b =125, then what is the average of a and b?

   1) 4.6 2) 2.5 3) 4.5 4) 3.4 5) None of these

4. Kamlesh bought 65 books for ₹ 1050 from one shop and 50 books for ₹ 1020 from another. What is the average price he paid per book?

   1) ₹ 36.40 2) ₹ 18.20 3) ₹ 24 4) ₹ 18 5) None of these

5. Sachin made 1000 runs in 20 matches. If he made 0 runs in one match, find the average runs of other matches.

   1) 51.63 2) 52.53 3) 52.73 4) 52.63 5) 52.33

6. The average age of A, B and C is 26 years. If the average age of A and C is 29 years, what is the age of B in a year?

   1) 26 2) 20 3) 29 4) 23 5) None of these

7. A cricketer scored 180 runs in the first test and 258 runs in the second. How many runs should he score in the third test so that his average score in the three tests would be 230 runs?

   1) 219 2) 242 3) 334 4) 356 5) None of these

8. The average weight of 10 boys is more than the average weight of 15 girls by 5 kg. If the total weight of the 10 boys is 550 kg, what is the average of the 10 boys and 15 girls together?

   1) 52 kg 2) 52.5 kg 3) 53 kg 4) 43.5 kg 5) None of these

9. The average of 6 numbers is 8. What is the 7th number so that average becomes 10?

   1) 22 2) 18 3) 21 4) 20 5) None of these

10. The average of 5 positive integers is 436. The average of the first two numbers is 344 and the average of the last two numbers is 554. What is the third number?

    1) 482 2) 346 3) 556 4) 384 5) None of these

11. The sum of 5 numbers is 924, the average of the first two numbers is 201.5 and the average of the last two numbers is 196. What is the third number?

    1) 133 2) 129 3) 122
    4) Cannot be determined 5) None of these

12. The sum of 5 numbers is 555. The average of the first two numbers is 75 and the third number is 115. What is the average of the last two numbers?

    1) 145 2) 290 3) 265 4) 150 5) None of these

13. The average temperature of first 3 days is 27 degrees and of the next 3 days is 29 degrees. If the average of the whole week is 28.5 degrees, what is the temperature of the last day?

    1) 31.5 2) 10.5 3) 21 4) 42 5) None of these

14. The average of 5 numbers is 306.4. The average of the first two numbers is 431 and the average of the last two numbers is 214.5. What is the third number?

    1) 108 2) 52 3) 321

    4) Cannot be determined 5) None of these

Model 2: Weighted Average

15. In a class, there are 32 boys and 28 girls. The average age of the boys in the class is 14 years and the average age of the girls in the class is 13 years. What is the average age of the whole class? (Rounded off to two digits after decimal)

    1) 13.50 2) 13.53 3) 12.51 4) 13.42 5) None of these

16. In a certain school, there are 60 boys of age 12 each, 40 of age 13 each, 50 of age 14 each and 50 of age 15 each. What is the average age of all the boys of the school?

    1) 13.50 2) 133.1 3) 13.45 4) 14 5) None of these

17. The average age of 20 students of a section is 12 years. The average age of 25 students of another section is.12 years. What is the average age of both the sections combined together?

    1) 11 2) 11.5 3) 11.75

    4) Cannot be determined 5) None of these

Model 3: Average of Remaining Group

18. The average age of a class of 65 boys was 14 years, the average age of 20 of them was 14 years, and that of another 15 was 12 years. Find the average age of the remaining boys?

    1) 16 years 2) 13 years 3) 17 years 4) 15 years 5) None of these

19. The average monthly income of a family of four earning members was ₹ 15,130. One of the daughters in the family got married and left home, so the average monthly income of the family came down to ₹ 14,660. What is the monthly income of the married daughter?

    1) ₹ 15.350 2) ₹ 12,000 3) ₹ 16,540

    4) Cannot be determined 5) None of these

20. The total ages of the class of 75 girls is 1050 years, the average age of 25 of them is 12 years and that of another 25 is 16 years. Find the average age of the remaining girls?

    1) 12 years 2) 13 years 3) 14 years 4) 15 years 5) None of these

Model 4: Average When a Member Is Excluded/Included From/into a Group

21. The average age of 39 students and a teacher of a Class are 11 years. If the age of teacher is excluded the average age of the class is reduced by 1. What is the age of teacher?

    1) 49 years 2) 39 years 3) 50 years 4) 52 years 5) None of these

22. The average weight of 11 students is 30 kg. If the average weight increases by 0.5 kg when Suresh, one of the students leaves the group, what is the Suresh's weight?

    1) 28 2) 25 3) 40 4) 35 5) None of these

23. The average age of 31 students is 11.5 years. If teacher's age is included average age is increased by 1. What is the teacher's age?

    1) 36 2) 35.5 3) 37 4) 43.5 5) None of these

Model 5: Discrepancy in Average Due to a Wrong Entry

24. The average temperature for a week is noted as 32^0C. But later it was realized that Friday temperature reading was taken as 30^0C instead of 16^0C. What is the true average temperature for the week?

    1) 15 2) 30 3) 10 4) 20 5) None of these

25. The average weight of a group of 53 girls was calculated as 58 kg. It was later discovered that the weight of one of the girls was read as 65 kg, whereas her actual weight was 45 kg. What is the actual average weight of the group of the 53 girls? (rounded off to two digits after decimal)

    1) 58.62 2) 58.37 3) 57.37 4) 57.62 5) None of these

26. The average weight of a group of 50 girls was calculated as 58 kg. It was later discovered that the weight of one of the girls was read as 45 kg, whereas her actual weight was 65 kg. What is the actual average weight of the group of the 50 girls? (rounded off to two digits after decimal)

    1) 58.6 2) 57.6 3) 57.4 4) 58.4 5) None of these

Model 6: Average of Consecutive Numbers

27. The sum of 3 consecutive even numbers is 44 more than the average of these numbers. What will be the highest of these numbers?

    1) 16 2) 18 3) 24

    4) Cannot be determined 5) None of these

28. If the average of 11 consecutive even numbers is 98, what is the highest number?

    1) 72 2) 84 3) 96 4) 108 5) None of these

29. A, B, C and D are four consecutive numbers. If the sum of A and D is 103 what is the product of B and C?

    1) 2652 2) 2562 3) 2970 4) 2550 5) None of these

30. A, B, C and D are four consecutive even numbers respectively and their average is 65.What is the product of A and D?

    1) 3968 2) 4216 3) 1092 4) 4352 5) None of these

31. The average of 5 consecutive odd numbers A, B, C, D and E is 47. What is the product of A and D?

    1) 2107 2) 1935 3) 2021 4) 2193 5) None of these

32. The sum of 5 consecutive odd numbers is 575. What will be the sum of the next set of 5 consecutive odd numbers?

    1) 625 2) 580 3) 600 4) 650 5) None of these

33. The sum of 5 consecutive even numbers is 200. What will be the sum of the next set of 5 consecutive even numbers?

    1) 240 2) 250 3) 300 4) 225 5) None of these

34. The average of four positive integers is 59. The highest integer is 83 and the lowest integer is 29. The difference between the remaining two integers is 28. Which of the following integers is the higher of the remaining two integers?

    1) 34 2) 76 3) 39

    4) Cannot be determined 5) None of these

35. A boy has to find the average of 25 positive integers. Each integer contains two digits. By mistake, the boy interchanges the digits of one number and finds the average 2.88 less than the real average. What is the difference between the two digits of that number?

1) 6 2) 8 3) 4 4) 7 5) None of these

Answers

1 - 5	2 - 1	3 - 2	4 - 4	5 - 4
6 - 2	7 - 5	8 - 1	9 - 1	10 - 4
11 - 2	12 - 1	13 - 1	14 - 5	15 - 2
16 - 3	17 - 5	18 - 4	19 - 3	20 - 3
21 - 3	22 - 2	23 - 4	24 - 2	25 - 4
26 - 4	27 - 3	28 - 4	29 - 1	30 - 2
31 - 1	32 - 1	33 - 2	34 - 2	35 - 2

Additional Examples (English Only)

1. The average of the first 100 positive integers is

a) 100 b) 51 c) 50.5 d) 49.5

2. The average of the first nine integral multiples of 3 is

a) 21 b) 12 c) 15 d) 18

3. If a, b, c, d and e are five consecutive odd numbers, their average is –

a) 5(a+b) b) $\frac{abcde}{5}$ c) 5(a+b+c+d+e)

d) a+4

4. The average of 18 observations is recorded as 124. Later it was found that two observations with values 64 and 28 were entered wrongly as 46 and 82. Find the correct average of the 18 observations.

   a) $111\frac{7}{9}$ b) 122 c) 123 d) $137\frac{7}{9}$

5. The average mathematics marks of two Sections A and B of Class IX in the annual examination is 74. The average marks of Section A are 77.5 and that of Section B is 70. The ratio of the number of students of Sections A and B is

   a) 7:8 b) 7:5 c) 8:7 d) 8:5

6. The average age of 11 players of a cricket team is increased by 2 months when two of them gained 18 years and 20 years are replaced by two new players. The average age of the new players is

   a) 19 years 1 month b) 19 years 6 months c) 19 years 11 months
   d) 19 years 5 months

7. Out of 10 teachers of a school, one teacher retires and in its place, a new teacher of age 25 years joins. As a result, average age of teachers is reduced by 3 years. The age (in years) of the retired teacher is

   a) 58 b) 60 c) 55 d) 50

8. The average age of Ram and his two children is 17 years and the average age of Ram's wife and the same children is 16 years. If the age of Ram is 33 years, the age of his wife is (in years)

   a) 31 b) 32 c) 35 d) 30

9. A man's pension on retirement from service is equal to half the average salary during last 3 years of his service. His salary form 1-1-1983 is ₹ 380 per month with increment of Rs. 40 due on 1-10-83, 1-10-84 and 1-10-85. If he retires on 1-1-86, what pension does he draw?

   a) ₹ 205 b) ₹ 215 c) ₹ 225 d) ₹ 230

10. The average of 50 numbers is 38. If two numbers namely 45 and 55 are discarded, the average of the remaining numbers is

    a) 35 b) 32.5 c) 37.5 d) 36

11. The average age of the jury of 5 is 40. If a member aged 35 resigns and a managed 25 becomes a member, then the average age of the new jury is_

    a) 30 b) 38 c) 40 d) 42

12. The average of nine numbers is 50. The average of the first five numbers is 54 and that of the last three numbers is 52. Then the sixth number is

    a) 30 b) 34 c) 24 d) 44

13. The average of 20 numbers is 15 and the average of first 5 is 12. The average of the rest is-

    a) 16 b) 15 c) 14 d) 13

14. Out of 4 numbers, whose average is 60, the first one is one-fourth of the sum of the least three. The first number is

    a) 15 b) 45 c) 48 d) 60

15. The average of 25 observations is 13. It was later found that an observation 73 was wrongly entered as 48. The new average is

    a) 12.6 b) 14 c) 15 d) 13.8

16. Among three numbers, the first is twice the second and thrice the third. If the average of the three numbers is 49.5, then the difference between the first and the third number is

    a) 54 b) 28 c) 39.5 d) 41.5

17. The mean of 50 numbers is 30. Later it was discovered that two entries were wrongly entered as 82 and 13 instead of 28 and 31. Find the correct mean.

    a) 36.12 b) 30.66 c) 29.28 d) 38.21

18. The average of three consecutive odd numbers is 12 more than one third of the first of these numbers. What is the last of the three numbers?

    a) 15 b) 17 c) 19 d) Data inadequate

19. The average weight of a group of 20 boys was calculated to be 89.4 kg and it was later discovered that one weight was misread as 78 kg instead of 87 kg. The correct average weight is

    a) 88.95 kg b) 89.25 kg c) 89.55 kg d) 89.85 kg

20. In a family, the average age of a father and a mother is 35 years. The average age of the father, mother and their only son is 27 years. What is the age of the son?

    a) 12 years b) 11 years c) 10.5 years d) 10 years

Answers

1 – c	2 - c	3 - d	4 - b	5 - c	6 - c	7 - c	8 - d	9 - b	10 - c
11 - b	12 - c	13 - a	14 - c	15 - b	16 - a	17 - c	18 - c	19 - d	20 - b