DEFENCE MANIA EDUTECH PVT. LTD

Average & ages

1. The four numbers W, X, Y and Z are arranged in ascending order. The smallest three number's average is 22, while the largest three number's average is 28. Find the range of data?
(A) 19 **(B)** 18
(C) 17 **(D)** 16

2. The average of the three numbers is 7. The first two averaged 5, while the last 2 averaged 8. What are the three numbers (respectively)?
(A) 3, 7 and 9 **(B)** 2, 8 and 8
(C) 5, 5 and 11 **(D)** 4, 6 and 10

3. Putting the four digits in ascending order, their order is w, x, y and z. The smallest three digit's average is 25.5 while the largest three digit's average is 29.5. Find the range of data.
(A) 13 **(B)** 12
(C) 10 **(D)** 11

4. The average of the three numbers is 28. If 2 is added to the smallest number and 5 is subtracted from the largest number, the middle number becomes the arithmetic mean, while the range of this new set of figures becomes 36. What is the largest number of the original set of these three numbers?
(A) 50 **(B)** 48
(C) 47 **(D)** 45

5. The average of the three numbers is 28. If 7 is added to the smallest number and 10 is subtracted from the largest number, then the middle number becomes the arithmetic mean and the range of this new set of figures becomes 20. What is the largest number of the original set of these three numbers?
(A) 47 **(B)** 40
(C) 45 **(D)** 50

6. The four numbers a, b, c and d are such that their total average is 39. The average of a and b is 29.5. What will be the average of c and d?
(A) 48.5 **(B)** 48
(C) 49.5 **(D)** 47.5

7. The average of the marks obtained in a test of 18 boys in a class is 16, while the average of the total 30 students of the class is 18.1. What is the average of girls' scores?
(A) 21.25 **(B)** 20.5
(C) 20.75 **(D)** 21

8. The number of students in three groups G_1, G_2 and G_3 of a college is 20, 40 and 60 respectively. The average marks obtained by the groups G_1, G_2 and G_3 are 50%, 60% and 70% respectively. What is the average marks of all college students?
(A) 62% **(B)** 61%
(C) 60% **(D)** 63%

9. In a class of 40 students, the ratio of boys to girls is 7:3. The average marks of boys is 65 and that of girls is 72. What is the average score for the whole class?
(A) 67.1 **(B)** 68.4
(C) 68.3 **(D)** 68.2

10. In a class of 45 students, the ratio of boys to girls is 4: 5. The average marks of boys is 75 and that of girls is 82. What is the approximate average score for the whole class?
(A) 78.6 **(B)** 78.5
(C) 78.9 **(D)** 79.0

11. The average test score of 18 boys in a class was 15, while the overall 25 students in the class averaged 16.12. What was the average score of the girls?
(A) 18.5 **(B)** 19.5
(C) 19 **(D)** 18.8

12. The average marks obtained by a student in 5 subjects is 75. The average of his first 2 subjects is 65. The average of his last 2 subjects is 85. How many marks has he got in the third subject?
(A) 80 marks **(B)** 65 marks
(C) 75 marks **(D)** 70 marks

13. In a class of 50 students, the ratio of boys to girls is 2: 3. Boys have an average score of 60 and girls have an average score of 70. What is the average score of the whole class?
(A) 65 **(B)** 66
(C) 67 **(D)** 64

14. The average marks obtained by Reena in 16 examinations is 26. The average of marks obtained by Shreya so far is 24, but she has given only 12 exams so far. In order to perform like Reena, how many marks should Shreya score on average in the remaining 4 exams?
(A) 28 **(B)** 32
(C) 30 **(D)** 26

15. There were 9 boys and some girls in one class. In an examination, boys scored 13 average marks while the average marks obtained by girls was 15. If the total average of the marks is 14.28, then what will be the total number of students in the class?
(A) 24 **(B)** 25
(C) 26 **(D)** 27

16. The average of the marks of three students in an examination of 25 marks is 16. Two new students participated in the examination. In order to increase the average score of all five students to 19, the new student, who scores less than the other new student, has to score at least how many marks?
(A) 22 **(B)** 21
(C) 20 **(D)** 23

17. The average of the marks of three students in an examination with a total of 45 marks is 38. Two new students participated in the examination. What is the lowest number of marks that can be scored by a new student who has scored less than another new student, making the total average of the marks of five students to be 40?
(A) 41 **(B)** 42
(C) 40 **(D)** 43

18. The average score obtained by Raghuveer in 12 tests is 25. Rumella has an average of 23 marks so far, but has competed in only 8 Tests. What average will Rumela have to earn in the remaining 4 Tests to be equal to Raghuveer's average?
(A) 27 **(B)** 29
(C) 26 **(D)** 28

19. A group of five students took an exam. Another student later joined the group after taking the exam. By adding his scores, the average score of the group increased by 2 points. How many more points did this student get than the average score without including it?
(A) 18 **(B)** 14
(C) 12 **(D)** 15

20. There were 28 boys and some girls in one class. The average marks obtained by boys in an examination was 12.5, while girls scored 14.5 average marks. If the overall average was 13.1, what was the total number of students in the class?
(A) 42 **(B)** 40
(C) 44 **(D)** 38

21. A group of nineteen students took an exam, another student later joined the group taking the exam. The inclusion of his scores increased the group's average score by 1.5 points. How many more points did this student get from the average score without including it.
(A) 25 **(B)** 30
(C) 24 **(D)** 28.5

22. The average marks obtained by Suvir in 15 examinations is 29. Ruchira has so far maintained an average of 27, but has given only 11 exams so far. How much does Ruchira score on the remaining four exams to match Suvir's performance?
(A) 35 **(B)** 34.5
(C) 36 **(D)** 35.5

23. The group of seven students took an exam. After the exam, another student joined the group. By adding new student scores, the group's average scores increased to 2. How many more marks did this student get than the average marks of the initial seven students?
(A) 16 **(B)** 18
(C) 14 **(D)** 20

24. In the group of 5 people, ratio of the average of the ages of the first three and the last two is 9:7. If their average age difference is 12, what will be the average age of the five people?
(A) 46.8 **(B)** 49.2
(C) 48.4 **(D)** 64.8

25. The average of 81 results is 54. If the average of the first 59 results is 52 and the average of the last 21 results is 60, then calculate the 60th result.
(A) 52 **(B)** 60
(C) 46 **(D)** 62

26. The average weight of 25 items is 50kg. If the weight of another object X is included, the average weight increases to 500g. What is the weight of object X?
(A) 28kg **(B)** 36kg
(C) 82kg **(D)** 63kg

27. The mean weight of six children is 17.5 kg. If the individual weights of five of these children are 14, 19, 23, 21 and 13 kg respectively, find the weight of the sixth child.
(A) 17k **(B)** 15kg
(C) 16kg **(D)** 18kg

28. After 11 innings, the average score per innings of a batsman is 52. After 13 innings, the average rose to 54. If the batsman has scored 16 runs more than the previous innings in the 13th innings, then how many runs did he score in the 12th innings?
(A) 54 **(B)** 57
(C) 56 **(D)** 55

29. One group of 12 members had an average score of 8, while another group of n members had an average score of 10. If the combined average was 9.2, find the value of n.

(A) 18 **(B)** 24
(C) 16 **(D)** 30

30. The average of runs scored by a batsman in five matches is 125. The average of runs scored by him in the first two matches is 150. The average of runs scored in the last two matches is 110. How many runs were scored by the Batsman in the third match?

(A) 115 run **(B)** 125 run
(C) 105 run **(D)** 95 run

31. Based on the following table, what is the average number of screws manufactured in the unit in a given 6 months?

Month	Number of screws manufactured
January	200
February	300
March	250
April	250
May	250
June	250

(A) 300 **(B)** 200
(C) 250 **(D)** 150

32. A private swimming pool provides different time slots for its users, and the following table shows the number of pool visitors of the week.

Day	Number of pool visitors
Monday	8
Tuesday	4
Wednesday	15
Thursday	15
Friday	20
Saturday	25
Sunday	25

On average, how many visitors came on a single day of that week?

(A) 12 **(B)** 16
(C) 14 **(D)** 15

33. Two football teams, Team A and Team B played in the tournament and scored the following goals in 6 matches.

Game	Goal by Team A	Goal by Team B
Game 1	2	3
Game 2	1	0
Game 3	0	1
Game 4	4	5
Game 5	3	2
Game 6	2	1

(A) The average scores of Team A and Team B are same.
(B) Team A's average score is higher than B.
(C) Team A is more compatible than Team B.
(D) Team B's average score is higher than Team A.

34. The number of people going through the shop is recorded for four different quarters. The following data is given for this.

Quarter	Number of people
Quarter 1	2000
Quarter 2	1000
Quarter 3	3500
Quarter 4	5500

What is the average number of people going through the shop in all the quarters?

(A) 12, 000 **(B)** 4, 000
(C) 10, 000 **(D)** 3, 000

Direction (35-37): The given table shows the marks obtained by four students, W, X, Y and Z in four subjects, P, C, B and M, with a maximum of 100 marks in each subject.

Students/ Subject	P	C	B	M
W	70	90	50	85
X	55	80	95	60
Y	60	20	90	40
Z	90	80	40	65

35. Subject C has average marks of all four students:

(A) 67.5 **(B)** 67
(C) 67.75 **(D)** 67.25

36. What is the average marks in M of four students:

(A) 62 **(B)** 62.25
(C) 62.75 **(D)** 62.5

37. What is the average marks of the four students in P?

(A) 68.5 **(B)** 68
(C) 68.75 **(D)** 68.25

38. Find the average of 3/4, 5/8, 7/12, 15/16.

(A) 139 / 192 **(B)** 135 / 64
(C) 11 / 32 **(D)** 21 / 64

39. The average of five consecutive even numbers is 40. Find the value of the smallest of these numbers.

(A) 35 **(B)** 36
(C) 44 **(D)** 48

40. The average of the four numbers a, b, c and d is 26. If the average of a and b is 19.5 then the average of c and d will be:

(A) 33 **(B)** 35.5
(C) 31.5 **(D)** 32.5

41. The average marks in an examination of 3 students of a class is 18 out of 25. Two new students take the exam. What is the minimum marks that can be obtained by a new student and it is less than the other students and the total average of the five students should reach 20?

(A) 23 **(B)** 20
(C) 21 **(D)** 22

42. In a class of 10 students, the average age was 16 years. When two students left the class, the average age of the remaining students was 16.25 years. What was the total age of the leaving students?
(A) 32 years **(B)** 30 years
(C) 34 years **(D)** 28 years

43. A person received 4 packets in January with an average weight of 300g, and 8 packets in February with an average weight of 400g. What will be the average weight (in gm) of all the packets received by the person in both months?
(A) 350 g **(B)** 366.67 g
(C) 412.67 g **(D)** 376.67 g

44. The average score of a group of cricketers was 42. A new player joins and scores 250% of the average of the group members. This results in a 30% increase in the overall average. What was the number of cricketers in the group before the new player joined?
(A) 3 **(B)** 5
(C) 6 **(D)** 4

45. The sales volume in the shop is recorded for four different quarters. Following is the data-

Quarter	Sales volume
Quarter 1	200
Quarter 2	100
Quarter 3	350
Quarter 4	550

What is the average sale per quarter?
(A) 300 **(B)** 500
(C) 250 **(D)** 350

46. After 10 innings, the average score per innings of a batsman was 52. The average score increased to 54 after 12 innings. If the batsman has scored 16 runs more in the 12th innings than the previous one innings, then how many runs did he score in the 11th innings?
(A) 55 **(B)** 56
(C) 54 **(D)** 53

47. What is the mean (average) of the first 50 natural numbers?
(A) 26.5 **(B)** 25.5
(C) 26 **(D)** 25

48. The sum of 7 numbers is 1050. The average of the first three numbers is 120, the fourth number is 126, then find the average of the last three numbers.
(A) 200 **(B)** 165
(C) 188 **(D)** 173

49. Find the average of 8, 5, 6, 3, 7, 4, 3, 9.
(A) 5.63 **(B)** 5.64
(C) 5.65 **(D)** 5.66

50. Find the average of 1, 9, 7, 3, 5, 5, 6, 4, 2, 8.
(A) 3 **(B)** 4
(C) 5 **(D)** 6

51. Srinivas is four times older than his daughter. Five years ago, Srinivas was nine times older than his daughter at that time. What is his daughter's present age?
(A) 8 years **(B)** 6 years
(C) 5 years **(D)** 10 years

52. Eight years ago, Ashwin's age was 1 year less than 3 times Arpit's age. Six years ago, Ashrin was 1 year older than 2 times of Arpit's age. What will be the age of Arpit after 7 years?
(A) 19 years **(B)** 15 years
(C) 16 years **(D)** 12 years

53. After 19 years from now Vinod's age will be double of Anand's age. Seven years ago, Anand's age was a quarter of Vinod's age. What is Vinod's present age?
(A) 53 years **(B)** 57 years
(C) 55 years **(D)** 59 years

54. Five years ago, Rohit's age was 2/3 times Rohan's age. After 5 years Rohan's age will be 5/4 times Rohit's age. What is Rohit's present age?
(A) 25 years **(B)** 20 years
(C) 10 years **(D)** 15 years

55. One year ago, Akash's father was 9 times Akash's age. After 3 years his father's age will be 5 times his age. What will be the age of Akash next year?
(A) 6 years **(B)** 8 years
(C) 5 years **(D)** 4 years

56. A person is 9 times older than his son. Two years later, the father will be 1 year less than 6 times of his son. Find their current age.
(A) 27 years and 3 years
(B) 30 years and 6 years
(C) 26 years and 10 years
(D) 36 years and 12 years

57. Dalia is 20 years older than Neetu and in two years her age will be double of Neetu's age. What is Neetu's present age?
(A) 18 years **(B)** 16 years
(C) 20 years **(D)** 22 years

58. 5 years ago, Sindhu was three times as old as Kaveri. 10 years from now, Kaveri's age will be half of Sindhu age. After 5 years from now, how old will Kaveri be?
(A) 15 **(B)** 20
(C) 55 **(D)** 25

59. The total age of Daniel and Dinara is 115 years. Five years ago, two times Dinara's age was equal to three times Daniel's age. What is the present age of Dinara?
(A) 62 years **(B)** 64 years
(C) 66 years **(D)** 68 years

60. The sum of father and mother's age is 7.5 times that of their son. Mother's age is 35 years. If the father's age is 4 times the age of his son, then what is the son's age?
(A) 15 **(B)** 10
(C) 18 **(D)** 12

61. The sum of the present ages of two persons is seven times the difference between their ages. After 5 years, the sum of their ages will become nine times the difference between their ages. What is the present age of the elder person?
(A) 32 years **(B)** 10 years
(C) 20 years **(D)** 35 years

62. The product of the ages of Anusha and Neelima is 240. If double of Nilima's age is 4 years more than Anusha's age, then what is Anusha's age?
(A) 18 years **(B)** 16 years
(C) 20 years **(D)** 14 years

63. Two-thirds of my age is three-quarters of my cousin's age, my age 3 years ago was exactly what my cousin would be one year later, what is my current age (in years)?
(A) 36 **(B)** 18
(C) 45 **(D)** 27

64. The present ages of Raghu and Sita is 17 years and 41 years respectively. 5 years ago, Raghu's age was ---------Sita's age.
(A) three fourths **(B)** one third
(C) half **(D)** two thirds

65. Brittin is currently 18 years old, while her cousin is 7 years old. In how many years will Bratin's age be 1.5 times that of his cousin?
(A) 13 **(B)** 14
(C) 16 **(D)** 15

66. Father's age is 5 years more than mother's age. Mother's present age is three times her daughter's age. The present age of the daughter is 12 years. What was the age of the father when the daughter was born?
(A) 29 years **(B)** 25 years
(C) 31 years **(D)** 32 years

67. A father tells his son, "My age at the time of your birth was equal to your present age." If the present age of the father is 40 years, then what was the age of the son 5 years ago?
(A) 15 years **(B)** 13 years
(C) 17 years **(D)** 23 years

68. At the time of marriage, a man was 6 years older than his wife. But after 12 years of marriage, he is 1.2 times his wife. How old were they at the time of marriage?
(A) 27 years, 18 years
(B) 24 years, 18 years
(C) 21 years, 18 years
(D) 23 years, 19 years

69. Sita's age is two times the average age of Ram, Mohan and Sita. Ram's age is half the average age of Ram, Mohan and Sita. If Mohan's age is 5 years, then what is the average age of Ram, Mohan and Sita?
(A) 10 years **(B)** 8 years
(C) 7 years **(D)** 15 years

70. Six years ago, the ratio of the ages of two persons P and Q was 3: 2. After four years, their age ratio will be 8: 7. How old is P?
(A) 10 years **(B)** 12 years
(C) 14 years **(D)** 8 years

71. The ratio of the age of Deepika and her mother is 3:11. After 3 years their age ratio becomes 1:3. How old is Deepika?
(A) 15 years **(B)** 9 years
(C) 13 years **(D)** 11 years

72. The ratio of the present ages of X and Y is 3: 4. Five years ago, their age ratio was 5: 7, so what is Y's present age?
(A) 50 years **(B)** 60 years
(C) 30 years **(D)** 40 years

73. Neeraj's age is half that of Suraj's. If 8 years is subtracted from the age of Neeraj and 5 years is increased in the age of the Suraj, then the age of the Suraj will be 5 times more than Neeraj. Two years ago, Suraj and Neeraj's age was …….
(A) 30 years and 15 years
(B) 28 years and 14 years
(C) 26 years and 12 years
(D) 28 years and 13 years

74. The present age of a mother and daughter is in the ratio of 8:3. After 12 years, their age ratio will be 2:1. What is the sum of the present age of mother and daughter?
(A) 66 years **(B)** 74 years
(C) 71 years **(D)** 69 years

75. If the age of P is twice that of Q, and after 5 years the sum of their ages is 70 years, then find the sum of their present ages (in years)?
(A) 60 **(B)** 40
(C) 30 **(D)** 50

76. If the present age of P is 15 years and after 6 years the age of Q will become 26 years, then what is the ratio of their present age?
(A) 4: 1 **(B)** 2: 3
(C) 2: 1 **(D)** 3: 4

77. When the age of mother was 43 years, there was a difference of 21 years between the age of mother and son. Father is 3 years older than the mother. when the father's age is 50 years, then what will be the difference between the age of father and son?
(A) 21 **(B)** 22
(C) 23 **(D)** 24

78. Tom's father is three times older than Tom. 10 years ago, Tom's father was 7 times his age. How old is Tom?
(A) 15 years **(B)** 16 years
(C) 14 years **(D)** 17 years

79. After reducing three times my age, three years ago, to three times my age after three years, I get my present age. Find my present age.
(A) 21 years **(B)** 15 years
(C) 24 years **(D)** 18 years

80. A father's age is three times his son's age and a son's age is 3/8 that of his mother's. If the difference between the ages of father and mother is 4 years, find the age of the son.
(A) 10 years **(B)** 9 years
(C) 11 years **(D)** 12 years

81. Seventeen years from today, the age of chetna will be double that of Mahim. Five years ago, Mahim's age was one year less than 1/3 of the age of chetna. What is the present age of chetna?
(A) 65 years **(B)** 63 years
(C) 67 years **(D)** 61 years

82. The sum of the present ages of the two cousins is 54. 11 years ago, the elder brother was three times as old as the younger. What is the present age of elder brother?
(A) 36 years **(B)** 35 years
(C) 32 years **(D)** 34 years

83. I have a brother who is 3 years older than me. When my brother was born, my sister was six years old. Our average age is 14. How old is my sister now?
(A) 20 years **(B)** 19 years
(C) 17 years **(D)** 18 years

84. The age of a grandfather is 5 times the age of his grandson. Which of the following numbers does not support the possible total ages of grandfathers and grandchildren?
(A) 50 **(B)** 54
(C) 72 **(D)** 66

85. In a group of students, 1/5 are under 8 years of age. 2/5 of the remaining students are over 8 years of age. How much of the students' age is exactly 8 years?
(A) 4/25 **(B)** 12/25
(C) 2/5 **(D)** 3/5

86. Neetu's age is 10 years more than Meetu's age, and Meetu's age is 7 years more than Geetu's age. If the sum of their ages is 48 years, then how much is Neetu's age (in years)?
(A) 25 **(B)** 22
(C) 28 **(D)** 27

87. Two-thirds of my current age is equal to three-fourths of my cousin's age. My age of three years ago will be equal to my cousin's age four years from today. What is my present age?
(A) 72 **(B)** 63
(C) 54 **(D)** 81

88. There is a difference of 16 years between the ages of two persons A and B. 6 years ago, the older person was 3 times the age of the younger person. What is the age of the youngest of A and B?
(A) 15 years **(B)** 11 years
(C) 14 years **(D)** 12 years

89. The ratio of the present ages of Sai and Satish is 5:4 respectively. After three years their ages will be 11:9 respectively. What is the present age of Satish?
(A) 22 **(B)** 23
(C) 21 **(D)** 24

90. There is a difference of 5 years between the ages of Peter and Preeti. 35 years ago when the two were married, four times Peter's age was equal to 5 times Preeti's age. What is the sum of the ages of both at present?
(A) 105 years **(B)** 110 years
(C) 115 years **(D)** 112 years

91. There is a difference of 6 years between the age of Charles and Shriya. When they married each other 30 years ago, Charles was 4 times as old as 5 times Shriya's age. What is the sum of their present ages?
(A) 112 years **(B)** 114 years
(C) 115 years **(D)** 110 years

92. Pinaki is 9 years younger than Bhaswati. After thirteen years Bhaswati's age will be 1.2 times Pinaki's age. Find Pinaki's current age?
(A) 28 years **(B)** 32 years
(C) 30 years **(D)** 33 years

93. Bipul is 16 years younger than Sable. 12 years from now, Sable's age will be 1.5 times Bipul's age. Now Sable is ------ years old.
(A) 42 **(B)** 45
(C) 40 **(D)** 36

94. 15 years ago, Shyam was twice as old as Prabhat. Five years from now Prabhat's age will be 5/8 of Shyam's age at that time. What is Shyam's present age?
(A) 72 years **(B)** 75 years
(C) 80 years **(D)** 64 years

95. Jeena is 24 years younger than her mother. After eight years her mother's age will be 5/3 times her age. What is Jina's present age (in years)?
(A) 24 **(B)** 22
(C) 26 **(D)** 28

96. Priyankur's present age is seven years less than three times the age of his cousin Rihanna. Sixteen years from now, Priyankur's age will be 150% of Rihanna's age. What is the present age (in years) of Priyankur?
(A) 17 **(B)** 23
(C) 20 **(D)** 26

97. Jeremy is 26 years younger than his father. After 8 years from now, his father's age will be two years less than twice his own age. What is Jeremy's current age (in years)?
(A) 20 **(B)** 24
(C) 22 **(D)** 18

98. The sum of the present ages of a father and his son is 60 years. Six years ago, the father's age was five times the son's age. How old will the son be after 6 years?

(A) 20 years **(B)** 21 years
(C) 15 years **(D)** 19 years

99. Satish is two years older than Gautam whose age is two times that of Sai. If the total of the ages of Satish, Gautam and Sai is 27, then what is the age of Gautam?

(A) 12 **(B)** 10
(C) 11 **(D)** 13

100. John is 15 years younger than Jill. 12 years ago Jill was 1.5 times John's age. How old is Jill currently?

(A) 57 **(B)** 45
(C) 30 **(D)** 42

Average & ages (Solution)

1. **Ans.(B)**
Let the numbers be w<x<y<z.
$w + x + y = 22 \times 3$ ....(i)
$x + y + z = 28 \times 3$....(ii)
Range = Largest number – Smallest number
Substituting eq. (i) from eq. (ii)
$\Rightarrow z - w = 84 - 66 = 18$

2. **Ans.(C)**
Let the numbers be x, y, z.
According to question –
$\Rightarrow \frac{x + y + z}{3} = 7 \ldots\ldots\ldots (i)$
$\Rightarrow \frac{x + y}{2} = 5 \ldots\ldots\ldots (ii)$
$\Rightarrow \frac{y + z}{2} = 8 \ldots\ldots\ldots (iii)$
⇒ from eq. (i) and (ii)
$\Rightarrow z = 21 - 10 = 11, z = 11$
⇒ putting the value of z in eq. (iii) –
$\Rightarrow y = 16 - 11 = 5, y = 5$
⇒ putting the value of y in eq. (ii) –
$\Rightarrow x = 10 - 5 = 5, x = 5$
Hence the number is 5, 5 and 11.

3. **Ans.(B)**
Four digit ascending order – w, x, y, z
According to question –
$\frac{w + x + y}{3} = 25.5$
$w + x + y = 76.5 \ldots\ldots\ldots (1)$
$\frac{x + y + z}{3} = 29.5$
$x + y + z = 88.5 \ldots\ldots\ldots (2)$
Substituting equation (1) from equation (2) –
$\boxed{z - w = 12}$
hence range = Largest Digit – Smallest Digit
z – w = 12

4. **Ans.(A)**
Let the three numbers be x, y, z and x <y <z.
$x + y + z = 28 \times 3$
$x + y + z = 84 \ldots\ldots (i)$
According to condition –
$\frac{(x + 2) + y + (z - 5)}{3} = y$
$x + y + z = 3y + 3$
$x - 2y + z = 3 \ldots\ldots (ii)$
same condition as the range
$z - 5 - (x + 2) = 36$
$z - x = 43 \ldots\ldots (iii)$
Subtracting equation (ii) from equation (i)y
= 27
from eq . (i) –
x + y + z = 84
$x + z = 84 - 27$
$x + z = 57$
$z - x = 43$
$2z = 100$
$z = 50$
hence the largest number of original sets = 50

5. **Ans.(A)** :
Let the first, second and third numbers be x, y and z respectively and x < y < z
According to question –
Sum of all three numbers = 28 × 3
$x + y + z = 84 \ldots. (i)$
$\because \frac{z - 10 + y + x + 7}{3} = y$
$x + y + z - 3 = 3y$
$x + z - 2y = 3 \ldots\ldots$ (ii)

$z - 10 - x - 7 = 20$
$z - x = 37 \ldots..$ (iii)
from eq. (i),(ii) and (iii)
$x + y + z = 84$
$z - 37 + \frac{2z - 40}{2} + z = 84$
$2z - 74 + 2z - 40 + 2z = 168$
$6z = 168 + 114$
$6z = 282$
$z = 47$

6. **Ans.(A)**
The total sum of the numbers (a + b + c + d)
= 39 ×4 = 156
The total sum of the number (a + b)
= 29.5 × 2 = 59.0
Total sum of (c + d) = [(a + b + c + d) – (a + b)]
= [156 – 59 = 97
∴ Average of number (c + d) $= \frac{97}{2} = 48.5$

7. **Ans.(A)**
Average of marks obtained in 18 boys test
= 16 total marks = 16× 18 = 288
Total 30 students average = 18.1 total marks = 18.1 × 30 = 543
total marks of 12 girls = 543 – 288
= 255
total average of 12 girls $= \frac{255}{12} = 21.25$

8. **Ans.(D)**
According to question –
total marks of G_1 = 20 × 50 = 1000
total marks of G_2 = 40 ×s 60 = 2400
total marks of G_3 = 60 × 70 = 4200
total marks of G_1, G_2 and G_3
= 1000 + 2400 + 4200 = 7600
total students = 20 + 40 + 60 = 120
Average marks of all students $= \frac{7600}{120}$
$= 63.3\% \approx 63\%$

9. **Ans.(A)**
Ratio of boys and girls 7: 3
total marks of boys = 65 ×7 = 455
total marks of girls = 72× 3 = 216
total marks = 671
number = 10
Hence the average of the whole class
$= \frac{671}{10} = \boxed{67.1}$

10. **Ans.(C)**
Let The number of boys and girls in a class of 45 students is 4 x, 5 x respectively.
$\therefore 4x + 5x = 45$

$9x = 45$
$x = 5$
Number of boys $4 \times 5 = 20$
Number of girls $5 \times 5 = 25$
total marks of boys $75 \times 20 = 1500$
total marks of girls $25 \times 82 = 2050$
total marks of boys and girls = 1500 + 2050
= 3550
total marks of class $= \frac{3550}{45} = 78.88 = 78.9$

11. Ans.(C)
Number of girls = 25 – 18 = 7
Hence the average test score of girls
$= \frac{25 \times 16.12 - 18 \times 15}{7}$
$= \frac{403 - 270}{7} = \frac{133}{7} = 19$

12. Ans.(C)
Average marks obtained by the student in 5 subjects = 75
Total marks obtained by the students = 75 × 5 = 375
∵ average of first 2 subjects = 65
Sum of first 2 subjects = $65 \times 2 = 130$
∵ Average of last 2 subjects = 85
Sum of last 2 subjects = $85 \times 2 = 170$
Marks obtained in third subject = Sum of five subjects – (Sum of first 2 subjects + Sum of the last 2 subjects)
$= 375 - (130 + 170)$
$= 375 - 300$
$= 75$
Hence, marks obtained in third subject = 75

13. Ans.(B)
Given –
The ratio of boys and girls is 2: 3.
Number of boys $= \frac{50 \times 2}{5} = 20$
Number of girls $= \frac{50 \times 3}{5} = 30$
average score of whole class $= \frac{60 \times 20 + 30 \times 70}{50}$
$= \frac{1200 + 2100}{50} = \frac{3300}{50} = 66$

14. Ans.(B)
Average of marks obtained by Reena in 16 exams = 26
∴ Total marks = 26 ×16 = 416
Average of marks obtained by Shreya in 12 exams = 24
∴ Total marks = 24 × 12 = 288
Total difference of Reena and Shreya's marks = 416 – 288 = 128
Difference between two exams = 16 – 12 = 4
Average score of 4 examinations of Shreya
$= \frac{128}{4} = 32$ marks
Hence, Shreya got average marks in 4 exams for performing like Reena = Must bring 32.

15. Ans.(B)
Let number of girls = x
According to question –
$9 \times 13 + 15 \times x = 14.28(x + 9)$
$117 + 15x = 14.28x + 128.52$
$0.72x = 11.52$
$x = \frac{1152}{72}$
$x = 16$
hence the number of girls = 16
Total number of students = x + 9 = 16 + 9
= 25

16. Ans.(A)
Let there be three boys x, y and z.
According to question –
$x + y + z = 48 \ldots\ldots (i)$
Let, two newly inducted students are A and B.
Then the sum of the marks obtained by five students = $x + y + z + A + B = 95 \ldots\ldots (ii)$
From eq.(i) and (ii),
$A + B = 95 - 48$
$A + B = 47 \ldots\ldots (iii)$
$Integer\ for\ A + B = 25 + 25 = 50$ marks
If we give the highest marks to A, then the minimum marks obtained by B = 47 – 25
= 22 marks

17. Ans.(A)
Sum of marks of all 5 students = 40 × 5 = 200
Sum of marks of first three students = 38 × 3 = 114
Sum of marks of remaining two new students = 200 – 114 = 86
Maximum marks in the exam = 45
Hence,One of the two new students can get a maximum of 45 marks.
And the second student will be able to score a minimum of 86 – 45 = 41 marks.

18. Ans.(B)
Sum of total marks in 12 tests by Raghuveer = 12 × 25 = 300
Sum of total marks in 8 tests by Rumela = 8 × 23 = 184
4 marks required to be equal to Raghuveer = 300 – 184 = 116
Intended average $= \frac{116}{4} = 29$

19. Ans.(C)
let five students are A, B, C, D, E and their average = x
According to question –
$\Rightarrow A + B + C + D + E = 5x$ ……(i)
Let new involved student = F
$\Rightarrow A + B + C + D + E + F = 6(x + 2) = 6x + 12$ …….(ii)
From eq. (i) and (ii)
$\Rightarrow 6x + 12 - 5x = F$
$\Rightarrow F = x + 12$
Hence, the marks of newly inducted students are 12 more than the average marks.

20. Ans.(B)
Let number of girls = x
According to question –
$13.1 = \frac{28 \times 12.5 + x \times 14.5}{28 + x}$
$366.8 + 13.1x = 350 + 14.5x$
$1.4x = 16.8$
$x = 12$
number of students = 28
Number of girl students = 12

Total number = 28 + 12 = 40

21. Ans.(B)

let average marks of 19 students = x

$$\frac{student + student + --- + student}{10} - x$$

$student_1 + student_2 + ------ + student_{19} = 19x$ ------ (i)

New student joining –

$$\frac{student + student + --- + student}{20} x + 1.5$$

$student_1 + student_2 + ---------- + student_{20} = 20x + 30$ ---- (ii)

Substituting eq. (i) into eq. (ii)

$student_{20} = 20x + 30 - 19x$

$= x + 30$

It is clear that the new student in the group has get 30 marks more than the average.

22. Ans.(B)

Given,

Suvir's average marks in 15 exams = 29

Suvir's total score = 29 × 15 = 435

Ruchira's average marks in 11 exams = 27

Ruchira's total marks = 27 ×11 = 297

Total marks required in the remaining 4 examinations of Ruchira = 435 – 297 = 138

Hence the average marks required by Ruchira = $\frac{138}{4} = 34.5$

23. Ans.(A)

let average score of seven students = x

∴ Total marks obtained by seven students = 7x

Let again ew student marks = y

According to question –

$$\frac{7x + y}{8} = (x + 2)$$

$7x + y = 8x + 16$

$y = x + 16$

Hence the student scored 16 marks more than the average.

24. Ans.(B)

Average age of 3 people = 9x year

Average age of group of 2 people = 7x year

Difference of average age of both groups = 12

∴9 x – 7 x = 12

2x = 12

$\boxed{x = 6}$

Average age of 3 people = 9 × 6 = 54 year

Average age of 2 people = 7 × 6 = 42 year

Total age of 3 people = 3 × 54 = 162 year

Total age of 2 people = 2 × 42 = 84 year

Total age of 5 people = (162 + 84) = 246 year

Average age of 5 people = $\frac{246}{5}$ = 49.2 year

25. Ans.(C)

Total sum of 81 results = 81× 54 = 4374

Total sum of first 59 results = 59× 52 = 3068

Total sum of last 21 results = 21× 60 = 1260

60th result = 4374 – 3068 – 1260 = 46

26. Ans.(D)

Total weight of 25 items = 25× 50 = 1250kg

Total average weight if weights of new item X = (50 + .5) kg = 50.5kg

hence total weight of 26 items = 50.5 ×26 = 1313kg

weight of X = 1313 – 1250 = 63kg

27. Ans.(B) :

Let the weight of sixth child be x kg

$$\therefore 17.5 = \frac{14 + 19 + 23 + 21 + 13 + x}{6}$$

$105.0 = 90 + x$

$x = 15$

Hence, weight of sixth child = 15kg

28. Ans.(B)

Total score after 11 innings = 52 × 11 = 572

Total score of 13 innings = 54 ×13 = 702

12th innings + 13th innings score = Score of 13 innings – Score of 11 innings = 702 – 572 = 130

According to question –

let the run in 12th innings = x

run in 13th innings = x + 16

then,

$x + (x + 16) = 130$

$2x = 130 - 16$

$2x = 114$

$\boxed{x = 57}$

29. Ans.(A)

Sum of the group of 12 members = 12 × 8 = 96

Sum of group of n members = 10× n = 10 n

∴ Combined average = 9.2

∴ According to question –

$$9.2 = \frac{96 + 10n}{(12 + n)}$$

$$(12 + n) = \frac{960 + 100n}{92}$$

$1104 + 92n = 960 + 100n$

$144 = 8n$

$n = \frac{144}{8} = 18$

$\therefore n = 18$

30. Ans.(C)

Total runs scored in five matches = 125 × 5 = 625

Total runs scored in first two matches = 150 × 2 = 300

Total runs scored in last two matches = 110 × 2 = 220

∴ Total runs scored in third match = 625 – (300 + 220) = 625 – 520 = 105 run

31. Ans.(C)

$$\text{Average} = \frac{\text{Sum of terms}}{\text{number of terms}}$$

$$\text{Screw average} = \frac{200 + 300 + 250 + 250 + 250 + 250}{6}$$

$= \frac{1500}{6} = 250$

32. Ans.(B)

Number of visitors in whole week = 8 + 4 + 15 + 15 + 20 + 25 + 25 = 112

Average $= \frac{112}{7} = 16$

Hence, an average of 16 visitors arrived throughout the week.

33. Ans.(A)

Team A's average score

$$= \frac{2 + 1 + 0 + 4 + 3 + 2}{6} = \frac{12}{6} = 2$$

Team B's average score

$$= \frac{3 + 0 + 1 + 5 + 2 + 1}{6} = \frac{12}{6} = 2$$

34. **Ans.(D)**

average number $= \frac{2000 + 1000 + 3500 + 5500}{4}$

$= \frac{12000}{4} = 3000$

35. **Ans.(A)**

Average marks of all four students in Subject C $= \frac{90 + 80 + 20 + 80}{4} = \frac{270}{4} = 67.5$

36. **Ans.(D)**

Average marks in M of all four students

$= \frac{85 + 60 + 40 + 65}{4}$

$= \frac{250}{4} = 62.5$

37. **Ans.(C)**

Average marks of all the four students in P

$= \frac{70 + 55 + 60 + 90}{4} = \frac{275}{4} = 68.75$

38. **Ans.(A)**

$\text{Average} = \frac{\text{Sum of terms}}{\text{number of terms}}$

$\text{Average} = \frac{\frac{3}{4} + \frac{5}{8} + \frac{7}{12} + \frac{15}{16}}{4}$

$\text{Average} = \frac{\frac{36 + 30 + 28 + 45}{48}}{4}$

$= \frac{139}{48 \times 4} = \frac{139}{192}$

$\text{Average} = \frac{139}{192}$

39. **Ans.(B)**

let five consecutive even numbers are x, x + 2, x + 4, x + 6 and x + 8

According to question –

$\frac{x + x + 2 + x + 4 + x + 6 + x + 8}{5} = 40$

$5x + 20 = 200$

$5x = 180$

$\boxed{x = 36}$

Hence the smallest number x = 36

40. **Ans.(D)**

First condition,

$\frac{a + b + c + d}{4} = 26$

$\therefore a + b + c + d = 104 \ldots..(i)$

Second condition,

average of a and b = 19.5

a + b = 39 .....(ii)

putting the value of a + b of eq. (ii) in eq. (i)

$\therefore a + b + c + d = 104$

$39 + c + d = 104$

$c + d = 104 - 39$

$c + d = 65$

Hence the average of c and d $= \frac{c + d}{2}$

$= \frac{65}{2} = 32.5$

41. **Ans.(C)**

Total marks of three students = 25 × 3

= 75 marks

and the sum of their digits = 18 × 3

= 54 marks

Total marks of 5 students = 20 × 5

= 100 marks

2 marks obtained by students = 100 – 54 = 46

That is, one student can get 25 (maximum marks) while the other student can get 21 (minimum marks).

Hence minimum 21 marks can be obtained by a student.

42. **Ans.(B)**

Total age of 10 students = 16×10 = 160

Total age of remaining 8 boys = 8× 16.25

= 130.00

Total age of dropout students = 160 – 130

= 30 year

43. **Ans.(B)**

In January, the total weight of 4 packets

$= 4 \times 300 = 1200g$

In February, the total weight of 8 packets

$= 8 \times 400 = 3200g$

Average weight of total packets

$= \frac{\text{Sum of total weight}}{\text{Number of total packets}}$

$= \frac{1200 + 3200}{12}$

$= \frac{4400}{12} = \frac{1100}{3}$

$= 366.67g$

44. **Ans.(D)**

Let number of cricketers in the group = x, and average = 42

Then, total score = 42x

Number of cricketers when a player joins the group = x + 1

New average $= \frac{42 \times 130}{100} = 54.6$

New player's score $= \frac{42 \times 250}{100} = 105$

now total score = (105 + 42x)

hence, total = average × numbers

$105 + 42x = 54.6(x + 1)$

$105 - 54.6 = 54.6x - 42x$

$50.4 = 12.6x$

$x = \frac{50.4}{12.6} = 4$

Hence, number of cricketers in the first group (x) = 4

45. **Ans.(A)**

Average sales per quarter $= \frac{(200 + 100 + 350 + 550)}{4}$

$= \frac{1200}{4} = 300$

46. **Ans.(B)**

According to question,

Total score of 10 innings = 10 × 52 = 520

Total score of 12 innings = 12× 54 = 648

Let, X runs in the 11th inning.

According to question,

x + x + 16 = 648 – 520

2 x = 128 – 16

2 x = 112

x = 56 run

Hence, the batsman makes 56 runs in the 11th innings.

47. **Ans.(B)**

$\therefore$ Average of first n natural numbers $= \frac{n + 1}{2}$

$\therefore$ Average of first 50 natural numbers

$= \frac{50 + 1}{2} = 25.5$

48. **Ans.(C)**
Sum of the first three numbers = 120 × 3
= 360
Sum of last three numbers
= 1050 – (360 + 126)
$= 1050 - 486$
$= 564$
average of last three numbers $= \frac{564}{3} = 188$

49. **Ans.(A)**
average $= \frac{8+5+6+3+7+4+3+9}{8}$
$= \frac{45}{8} = 5.625 = 5.63$

50. **Ans.(C)**
average $= \frac{1+9+7+3+5+5+6+4+2+8}{10}$
$= \frac{50}{10} = 5$

51. **Ans.(A)**
Let present age of daughter = x years
present age of Shrinivas = 4x years
According to question –
$9(x-5) = 4x-5$
$9x-45 = 4x-5$
$5x = 40$
$x = 8$
Hence present age of daughter = 8 years

52. **Ans.(A)**
Let age of Arpt 8 years ago = x years
age of Adhrin = (3 x – 1) years
present age of Arpit = (x + 8) years
and present age of Adhrin = (3x + 7) years
According to question –
$(3x+7-6) = 2(x+8-6)+1$
$3x+1 = 2x+4+1$
$x = 4$
present age of Arpit x + 8 = 4 + 8 = 12 years
age of Arpit after 7 years = 12 + 7 = 19 years

53. **Ans.(D)**
Let Anand's age 7 years ago = x years
Let Vinod's age 7 years ago = 4x years
present age of Anand = (x + 7) years
present age of Vinod = (4 x + 7) years
According to question,
$2(x+7+19) = (4x+7+19)$
$2x+52 = 4x+26$
$2x = 26$
$x = 13$
present age of Vinod $= 4x+7 = 4\times13+7 =$ 59 year

54. **Ans.(D)**
Let present age of Rohit = x years
present age of Rohan = y years
As a first condition –
$(x-5) = (y-5)\times\frac{2}{3}$
$3x-15 = 2y-10$
$3x = 2y+5$
$x = \frac{2y+5}{3} \ldots\ldots\ldots\ldots(i)$
As a second condition –
$\frac{5}{4}\times(x+5) = (y+5)$
$5x+25 = 4y+20$
$5x-4y = -5$
or, $5x = 4y-5$
$x = \frac{4y-5}{5} \ldots\ldots(ii)$
From eq. (i) and (ii) –
$\frac{2y+5}{3} = \frac{4y-5}{5}$
$10y+25 = 12y-15$
$2y = 40$
$y = 20$ year
Putting the value of y in eq. (i),
$x = \frac{2\times20+5}{3}$
$x = \frac{45}{3} = 15$ year
Hence the present age of Rohit = 15 years

55. **Ans.(A)**
Let Akash's father's present age is 'x' years and Akash's age is 'y' years.
According to question –
$(x-1) = 9(y-1)$
$x-1 = 9y-9$
$x-9y = -8 \ldots\ldots(i)$
Again after three years
$(x+3) = 5(y+3)$
$x+3 = 5y+15$
$x-5y = 12 \ldots\ldots(ii)$

On solving both eq. (i) and (ii)
$4y = 20$
$y = 5$
Hence next year age of Akash
= 5 year + 1 year = 6 year

56. **Ans.(A)**
Let Son's present age = x year
∴ Father's present age $= 9x$ year
By question –
$(9x+2) = 6(x+2)-1$
$9x+2 = 6x+12-1$
$9x-6x = 12-1-2$
$3x = 9$
$\boxed{x = 3}$
Father's age $= 9x = 9\times3 = 27$ year
Son's age $= x =$ 3 year

57. **Ans.(A)**
Let Neetu's present age = x year
then Daliya's present age = (20 + x) year
According to question –
$[(20+x)+2] = 2(x+2)$
$22+x = 2x+4$
$\boxed{x = 18}$
Hence present age of Neetu = x = 18 year

58. **Ans.(D)**
Let Kaveri's present age = x year
and Sindhu's present age = y year
According to question –
From first position –
$y-5 = 3(x-5)$
$y-5 = 3x-15$
$3x-y = 15-5$
$3x-y = 10 \ldots\ldots(i)$

From second position –

$\frac{(y + 10)}{2} = (x + 10)$

$y + 10 = 2x + 20$

$2x - y = 10 - 20$

$2x - y = -10 \ldots\ldots (ii)$

Subtracting (ii) from equation (i) –

$3x - y = 10$

$2x - y = -10$

$- + +$

$3x - 2x = 20$

$x = 20$

Kaveri's present age = 20 year

After 5 years, age of Kaveri

= 20 + 5 = 25 year

59. Ans.(D)

Let Deniyal's present age = x year

And Dinara's present age = y year

As a first condition –

$x + y = 115 \ldots\ldots\ldots (1)$

As a second condition –

$3(x - 5) = (y - 5) \times 2$

$3x - 15 = 2y - 10$

$3x - 2y = -10 + 15$

$3x - 2y = 5 \ldots\ldots (2)$

Multiplying equation (1) by 2 and adding it to equation (2) –

$2x + 2y = 230$

$\frac{3x - 2y = 5}{5x} = 235$

$x = 47$

Again from eq. (1) –

$y = 115 - 47$

$y = 68$

Hence present age of Dinara = y = 68 year

60. Ans.(B)

According to question –

Father + mother = 7.5 × Son's age....(i)

mother's age = 35 year .....(ii)

Father's age = 4× Son's age.....(iii)

Putting the value of equation (ii) and (iii) in equation (i) –

4 × Son's age + 35 = 7.5 × Son's age

(7.5 – 4) × Son's age = 35

3.5 × Son's age = 35

Son's age = 35/3.5 = 10 year

61. Ans.(C)

Let present ages of both person are x and y years

According to question –

$x + y = 7(x - y)$

$x + y = 7x - 7y$

$6x = 8y$

$\frac{x}{y} = \frac{8}{6}$

$\frac{x}{y} = \frac{4}{3} x = 4k, y = 3k$

According to question –

$(x + 5) + (y + 5) = 9[x + 5 - (y + 5)]$

$x + y + 10 = 9(x + 5 - y - 5)$

$x + y + 10 = 9(x - y)$

$9x - x - 9y - y = 10$

$8x - 10y = 10$

Putting the value of x and y –

$\because x = 4k$

$y = 3k$

$32k - 30k = 10$

$2k = 10$

$k = 5$

$x = 4k$

$= 4 \times 5$

$= 20$ years

$y = 3k$

$= 3 \times 5$

$= 15$ years

Hence age of older person = x = 20 years

62. Ans.(C)

Let age of Anusha = x years

age of Nilima = y years

According to question,

$x \times y = 240 \ldots\ldots (i)$

$x + 4 = 2y$

$y = \left(\frac{x + 4}{2}\right) \ldots\ldots (ii)$

Putting the value of y in eq. (i)

$x \times \left(\frac{x + 4}{2}\right) = 240$

$x^2 + 4x = 480$

$x^2 + 4x - 480 = 0$

$x^2 + (24 - 20)x - 480 = 0$

$x^2 + 24x - 20x - 480 = 0$

$x(x + 24) - 20(x + 24) = 0$

$(x + 24)(x - 20) = 0$

$x = -24, 20$

Hence the age of Anusha = x = 20 years

63. Ans.(A)

Let my present age is x years and cousin's age is y years.

According to question,

$\frac{2x}{3} = \frac{3y}{4}$

$8x - 9y = 0 \ldots\ldots (i)$

$x - 3 = y + 1$

$x - y = 4 \ldots\ldots (ii)$

Multiplying 9 in equation (ii) and subtracting it from equation (i)

$8x - 9y = 0$

$\frac{9x - 9y = 36}{-x = -36}$

$x = 36$ years

64. Ans.(B)

Raghu's present age = 17 years

Sita's present age = 41 years

5 years ago ratio of both ages $= \frac{17-5}{41-5} = \frac{12}{36}$

= 1: 3

Hence Raghu's age was one third of Sita's age.

65. Ans.(D)

Let after x years, the age of britin will be 1.5 times the age of cousin.

$(x + 18) = 1.5(x + 7)$

$x + 18 = 1.5x + 10.5$

$0.5x = 7.5$

$x = 15$

66. Ans.(A)

∴ Daughter's present age = 12 years

then mother's present age = 3 × 12 = 36 years

father's present age = 36 + 5 = 41 years
hence, the age of the father at the birth of the daughter = 41 – 12 = 29 years

67. Ans.(A)
Let father's age at birth of son = x years
So present age of son = x years
Given, father's present age = 40 years
$\Rightarrow (40 - x) = x$
$40 = 2x$
$x = 20$ years
$\therefore$ 5 years ago son's age = 20 – 5 = 15 years
hence, 5 years ago, son's age was 15 years.

68. Ans.(B)
Let a person's wife's age at marriage = x years
And person's age = (x + 6) years
$\therefore$ Age of person after 12 years
= x + 6 + 12 = (x + 18) years
According to question,
$x + 18 = (x + 12) \times 1.2$
$x + 18 = 1.2x + 14.4$
$0.2x = 3.6$
$x = 18$
Hence age of person's wife = x = 18 years
and age of person = (x + 6) = (18 + 6)

= 24 years

69. Ans.(A)
$\text{Sita's age} = \frac{\text{Ram} + \text{Mohan} + \text{Sita}}{3} \times 2$
given, Mohan = 5 years
3 × Sita = (Ram + 5 + Sita) × 2
3 × Sita = 2× Ram + 10 + 2 × Sita
Sita = 2 × Ram + 10.....(1)
Age of Ram
$= \frac{\text{Ram} + \text{Mohan} + \text{Sita}}{3} \times \frac{1}{2}$
$6 \times \text{Ram} = \text{Ram} + 5 + \text{Sita}$
$5 \times \text{Ram} = 5 + \text{Sita}$
$\text{Sita} = 5 \times \text{Ram} - 5$ .....(2)
Subtracting equation (1) from equation (2)
Age of ram = 5
Age of sita = 20
Age of Mohan = 5
$\text{So average age} = \frac{\text{Ram} + \text{Sita} + \text{Mohan}}{3}$
$= \frac{5 + 5 + 20}{3} = 10$ years

70. Ans.(B)
Let six years ago ages of P and Q were 3x and 2x.
Present age of P and Q (3x + 6) years and (2x + 6) years
According to question,
$\frac{3x + 10}{2x + 10} = \frac{8}{7}$
$21x + 70 = 16x + 80$
$5x = 10$
$x = 2$
P's present age = (3x + 6) = 3 × 2 + 6 = 12 years

71. Ans.(B)
Let age of Deepika and her mother are 3x and 11x years respectively.
According to question,
$\frac{3x + 3}{11x + 3} = \frac{1}{3}$
$\Rightarrow 9x + 9 = 11x + 3$
$\Rightarrow 2x = 6$
$\Rightarrow x = 3$
Hence Deepika's age = 3 ×3
= 9 years

72. Ans.(D)
Let present ages of X and Y are 3x and 4x years respectively.
Age ratio of five years ago = 5 : 7
$\frac{3x - 5}{4x - 5} = \frac{5}{7}$
$21x - 35 = 20x - 25$
$21x - 20x = -25 + 35$
$x = 10$
So the present age of Y = 4x = 4 × 10
= 40 years

73. Ans.(D)
Let Suraj's present age is x years, and Neeraj's present age is x/2 years.
According to question,
$5\left(\frac{x}{2} - 8\right) = (x + 5)$
$\Rightarrow \frac{5x}{2} - 40 = x + 5$
$\Rightarrow \frac{5x}{2} - x = 5 + 40$
$\Rightarrow \frac{3x}{2} = 45$
$\Rightarrow x = 30$ years
before two years Suraj's age = 30 – 2
= 28 years
before two years Neeraj's age = 15 – 2
= 13 years

74. Ans.(A)
Let present age of mother and daughter is 8x years and 3x years.
According to question,
$\frac{8x + 12}{3x + 12} = \frac{2}{1}$
$8x + 12 = 6x + 24$
$2x = 12$
$x = 6$
$\therefore$ present age of (mother + daughter)
$= (8x + 3x) = 11x$
$= 11 \times 6 = 66$ years

75. Ans.(A)
Let age of Q is x years and age of P is 2x years.
According to question,
$2x + 5 + x + 5 = 70$
$3x = 60$
$x = 20$
sum of ages of P and Q = 2x + x = 40 + 20
= 60 years

76. Ans.(D)
P's present age = 15 years
let present age of Q = x years
According to question,
$x + 6 = 26$
$x = 20$ years
present age of Q = 20 years
The ratio of present ages of P and Q = 15: 20
= 3: 4

77. Ans.(D)

Mother's age = 43 years,
Son's age = 43 – 21 = 22 years
Father's age = 46 years
Difference in age of father and son after 4 years = 50 – 26 = 24 years

78. Ans.(A)
Let tom's present age = x years
then Tom's father's present age = 3x years
According to question,
$7(x-10) = (3x-10)$
$7x-70 = 3x-10$
$4x = 60, x = 15$ years
Hence present age of Tom (x) = 15 years

79. Ans.(D)
Let my present age is x years.
According to question,
$3(x+3)-3(x-3) = x$
$3x+9-3x+9 = x$
$x = 18$ years

80. Ans.(D)
Let Son's age = x years
∴ Father's age = 3 x years
and mother's age $= \frac{8}{3}x$ years
According to question,
$3x-\frac{8}{3}x = 4$
$9x-8x = 12$
$x = 12$ years
Hence son's age = 12 years

81. Ans.(A)
Five years ago –
Chetna's age = x years
Mahim's age $= \frac{x}{3}-1 = \left(\frac{x-3}{3}\right)$ years
After 17 years,
$x+5+17 = \left(\frac{x-3}{3}+5+17\right)\times 2$
$x+22 = \left(\frac{x-3}{3}+22\right)\times 2$
$x+22 = \frac{2x-6}{3}+44$
$x-\frac{2x-6}{3} = 22$
$3x-2x-6 = 66$
$x = 60$

82. Ans.(B)
Let first brother's present age = x years (elder brother)
then second brother's present age = (54 – x) years
11 years ago, both will be respectively (x – 11) years, (54 – x – 11) years i.e. (43 – x) years.
On condition –
$x-11 = (43-x)\times 3$
$x-11 = 129-3x$
$4x = 140$
$x = 35$ years
hence, present age of elder brother will be 35 years.

83. Ans.(B)
Let present age of person = x years
Present age of person's brother = (x + 3) years
Present age of person's sister = (x + 3 + 6) = (x + 9) years
∴ According to question
$x+x+3+x+9 = 3\times 14$
$3x+12 = 3\times 14$
$x+4 = 14$
$x = 10$ years
∴ sister's age $= 10+9 = 19$ year

84. Ans.(A)
Let Grandson's age = x year
Grandfather's age = 5x years
Total age = 6 x years
Since the numbers divisible by 6 are 54, 72 and 66.
Hence option (a) does not support total age.

85. Ans.(B)
Let total number of students in the group = x
Number of students under 8 years of age = x/5
Number of students over 8 years of age $= \left(x-\frac{x}{5}\right)\times\frac{2}{5} = \frac{8}{25}x$
Number of 8 year old students $= x-\left(\frac{x}{5}+\frac{8x}{25}\right) = x-\frac{13x}{25} = \frac{12x}{25}$
Number of exactly 8 years old students $= \frac{12}{25}$

86. Ans.(A)
According to question –
Where,
$N = M+10$ .....(i) $\begin{cases} N \Rightarrow \text{Neetu} \\ M \Rightarrow \text{Meetu} \\ G \Rightarrow \text{Geetu} \end{cases}$
$M = G+7$ ..... (ii)
$N+M+G = 48$ ..... (iii)
From eq. (i), (ii) and (iii) –
$M+10+M+M-7 = 48$
$3M = 45$
$M = 15$
Meetu is 15 years old,
Neetu's age = M + 10 = 25 years

87. Ans.(B)
If my present age is x years and my cousin's present age is y years.
then according to first condition –
$\frac{2x}{3} = \frac{3y}{4}$
$8x-9y = 0$ ..... (i)
and according to second condition –
$x-3 = y+4$
$x-y = 7$
$y = x-7$
putting in eq. (i) $y = x-7$
$8x-9(x-7) = 0$
$8x-9x+63 = 0$
$-x+63 = 0$
$\boxed{x = 63 \text{ years}}$

88. Ans.(C)
Let B's age = x years
∴ A's age = (16 + x) years
According to question
6 years ago –
$3(x-6) = (16+x-6)$
$3x-18 = x+10$
$2x = 28$
$x = 14$

hence age of a person who is under age will be 14 years.

89. Ans.(D)

Let present ages of Sai and Satish are 5x years, 4x years respectively.

According to question –

$$\frac{5x + 3}{4x + 3} = \frac{11}{9}$$

$\Rightarrow 9(5x + 3) = 11(4x + 3)$

$\Rightarrow 45x + 27 = 44x + 33$

$\Rightarrow 45x - 44x = 33 - 27$

$\Rightarrow 6x$

hence present age of Satish = 6 × 4 = 24 years

90. Ans.(C)

If Peter's present age is x years and Preeti's y years.

then.

$x - y = 5 \ldots\ldots\ldots (i)$

35 years ago according to the question,

$4(x - 35) = 5(y - 35)$

$4x - 140 = 5y - 175$

(ii)

$4x - 5y = -35 \ldots\ldots\ldots (ii)$

Multiplying equation (i) by 4 and solving equation (ii)

$4x - 4y = 20$

$4x - 5y = -35$

$y = 55\ year$

Putting y = 55 in equation (i),

$x - y = 5$

$x = 55 + 5 = 60$ years

Sum of ages of both in present $x + y = 60 + 55 =$ 115 years

91. Ans.(B)

Let shriya's age = x years

So Charles age will be = (x + 6) years

According to question,

$(x - 30) \times 5 = (x + 6 - 30) \times 4$

$5x - 150 = 4x - 96$

$x = 150 - 96$

$x = 54$ year

$\therefore$ Charles's age $= x + 6 = 54 + 6 = 60$ years

Sum of both ages = 60 + 54 = 114 years

92. Ans.(B)

Let Bhaswati's present age = x years

Pinaki's present age = (x – 9) years

Bhaswati's age after 13 years = (x + 13) years

Pinaki's age after 13 years = (x – 9 + 13)

= (x + 4) years

According to question,

$(x + 13) = 1.2(x + 4)$

$x + 13 = 1.2x + 4.8$

$0.2x = 8.2$

$x = \frac{8.2}{0.2} = 41$

Hence Pinaki's present age

= (x – 9) = (41 – 9)

= 32 years

93. Ans.(D)

Let Sable's present age = x years

then Bipul's present age = (x – 16) years

Sable's age after 12 years = (x + 12) years

Bipul's age after 12 years = (x – 16 + 12)

= (x – 4) years

According to question, –

$(x + 12) = 1.5(x - 4)$

$x + 12 = 1.5x - 6$

$0.5x = 18$

$x = \frac{18}{0.5}$

$x = 36$ years

hence, Sable's present age will be 36 years.

94. Ans.(B)

Let Prabhat's present age = x years

Shyam's present age = y years

According to question,

age of both 15 years ago

$2(x - 15) = (y - 15)$

$2x - 30 = y - 15$

$2x - y = 15 \ldots\ldots\ldots (1)$

both age after 5 years from present,

$(x + 5) = \frac{5}{8}(y + 5)$

$8x + 40 = 5y + 25$

$8x - 5y = -15 \ldots\ldots (2)$

Multiplying 5 in equation (1),

$(2x - y)5 = 15 \times 5$

$10x - 5y = 75 \ldots\ldots (3)$

Substituting equation (3) from equation (2) –

$8x - 5y = -15$

$10x - 5y = 75$

$-\frac{+}{-2x} = -90$

$x = 45$

putting the value of x in equation (1) –

$2 \times 45 - y = 15$

$y = 90 - 15$

$y = 75$ years

hence, Shyam's present age is 75 years.

95. Ans.(D)

Let Jeena's present age = x years

Mother's present age = (x + 24) years

Jeena's age 8 years = (x + 8) years

Mother's age 8 years = (x + 24 + 8) years

According to question,

$x + 32 = \frac{5}{3}(x + 8)$

$3x + 96 = 5x + 40$

$2x = 56$

$x = 28$

hence Jeena's present age = 28 years

96. Ans.(B)

Let Rihana's present age = x years

then Priyankur's present age = (3x – 7) years

According to question, –

$(3x - 7 + 16) = (x + 16) \times \frac{150}{100}$

$(3x + 9) = (x + 16) \times \frac{3}{2}$

$6x + 18 = 3x + 48$

$6x - 3x = 48 - 18$

$3x = 30$

$x = 10$

Priyankur's present age = 3x – 7

$= 3 \times 10 - 7$

$= 30 - 7 = 23$ years

97. Ans.(A)

Let Jeremi's present age = x years

According to question, –

Father's present age = (x + 26) years

So, $2(x + 8) - 2 = (x + 26 + 8)$
$2x + 16 - 2 = x + 34$
$x = 34 - 14$
$x = 20$ years

98. **Ans.(A)**
let Son's age = x years
then father's age = (60 – x) years
age of 6 years ago
$5(x - 6) = (60 - x - 6)$
$5x - 30 = 54 - x$
$6x = 84$
$x = 14$
Son's age,after 6 years = 14 + 6
= 20 years

99. **Ans.(B)**
Let Sai's age = x years
Gautam's age = 2x years
and Satish's age = (2x + 2) years
According to question, –
$x + 2x + 2x + 2 = 27$
$5x = 27 - 2$
$x = \frac{25}{5} = 5$
hence Gautam's age
$= 2x = 2 \times 5 = 10$ years

100. **Ans.(A)**
Let John's age is x years and Jill's age is y years.
According to question, –
y – x = 15 .....(i)
and (y – 12) = (x – 12) 1.5
y – 12 = 1.5 x – 18
y – 1.5 x = – 6 .....(ii)
from (i) and (ii) –
$y - x - (y - 1.5x) = 15 - (-6)$
$y - x - y + 1.5x = 15 + 6$
$0.5x = 21$
$x = \frac{21}{0.5}$
$x = 42$
putting the value of x in equation (i) –
$y - 42 = 15$
$y = 15 + 42 = 57$
hence, Jill's present age is 57 years.