5 CHAPTER

Number System, Average & Age

1. The average of five numbers is 49. The average of the first and the second numbers is 48 and the average of the fourth and fifth numbers is 28. What is the third number ?
(SBI Clerk 2011)
(a) 92 (b) 91 (c) 95
(d) Cannot be determined (e) None of these

2. The average of five numbers is 57.8. The average of the first and the second numbers is 77.5 and the average of the fourth and fifth numbers is 46. What is the third number?
(SBI Clerk 2011)
(a) 45 (b) 43 (c) 42
(d) Cannot be determined (e) None of these

3. The average speed of a bus is 8 times the average speed of a bike. The bike covers a distance of 186 km in 3 hours. How much distance will the bus cover in 10 hours ?
(SBI Clerk 2011)
(a) 4069 km (b) 4096 km (c) 4960 km (d) 4690 km
(e) None of these

4. Find the average of the following set of scores
125, 236, 334, 486, 564, 625, 702, 800
(IBPS Clerk 2011)
(a) 448 (b) 484 (c) 624 (d) 542
(e) None of these

5. The average height of four girls was recorded as 150 cm. If the average of the heights of three girls out of the four was 148 cm, what was the height of the fourth girl?
(IBPS Clerk 2011)
(a) 156 cm (b) 168 cm (c) 170 cm (d) 162 cm
(e) None of these

6. The average of four consecutive even numbers A, B, C and D is 37. What is the product of A & C ?
(IBPS Clerk 2011)
(a) 1520 (b) 1368 (c) 1292 (d) 1224
(e) None of these

7. Find the missing number if the average of all the eight numbers is 474. **(IBPS Clerk 2011)**
533, 128, 429, 225 _____, 305, 601, 804
(a) 767 (b) 781 (c) 776 (d) 758
(e) None of these

8. Sushil scored 103 marks in Hindi, 111 marks in Science, 98 marks in Sanskrit, 110 marks in Maths and 88 marks in English. If the maximum marks of each subject are equal and if Sushil scored 85 percent marks in all the subjects together, find the maximum marks of each subject.
(IBPS Clerk 2011)
(a) 110 (b) 120 (c) 115 (d) 100
(e) None of these

9. The average height of 21 girls was recorded as 148 cm. when the teacher's height was included, the average of their height increased by 1 cm. What was the height of the teacher? **(IBPS Clerk 2011)**
(a) 156 cm (b) 168 cm (c) 170 cm (d) 162 cm
(e) None of these

10. The average weight of 21 girls was recorded as 58 kg. If a teacher's weight is also added, the average weight increases by 1 kg. What is the weight of the teacher?
(IBPS Clerk 2011)
(a) 96 kg (b) 78 kg (c) 80 kg (d) 62 kg
(e) None of these

11. Find the missing number if the average of all the eight numbers is 472.
623, 164, 529, 425, _____, 205, 301, 824 **(IBPS Clerk 2011)**
(a) 737 (b) 711 (c) 723 (d) 705
(e) None of these

12. The average of four consecutive odd numbers A, B, C and D respectively is 40. What is the product of B and D?
(IBPS Clerk 2011)
(a) 1599 (b) 1591 (c) 1763 (d) 1677
(e) None of these

13. The average weight of 21 boys was recorded as 64 kg. If the weight of the teacher was added, the average increased by one kg. What was the teacher's weight?
(IBPS Clerk 2011)
(a) 86 kg (b) 64 kg (c) 72 kg (d) 98 kg
(e) None of these

14. Find the average of the following set of scores.
253, 124, 255, 534, 836, 375, 101, 443, 760
(IBPS Clerk 2011)
(a) 427 (b) 413 (c) 441 (d) 490
(e) None of these

15. The average of four consecutive numbers A, B, C and D is 49.5. What is the product of B and D? **(IBPS Clerk 2011)**
(a) 2499 (b) 2352 (c) 2450 (d) 2550
(e) None of these

16. The average weight of 15 girls was recorded as 54 kg. If the weight of the teacher was added, the average increased by two kg. What was the teacher's weight?
(IBPS Clerk 2011)
(a) 75 kg (b) 95 kg (c) 78 kg (d) 86 kg
(e) None of these

17. Find the average of the following set of scores:
152, 635, 121, 423, 632, 744, 365, 253, 302
(IBPS Clerk 2011)
(a) 403 (b) 396 (c) 428 (d) 383
(e) None of these

18. Vikram scored 72 per cent marks in five subjects together, viz; Hindi, Science, Maths, English and Sanskrit together, where in the maximum marks of each subject were 100. How many marks did Vikram score in Science if he scored 80 marks in Hindi, 70 marks in Sanskrit, 76 marks in Maths and 65 marks in English? **(IBPS Clerk 2011)**
(a) 72 (b) 69 (c) 59 (d) 71
(e) None of these

19. The average of four consecutive numbers A, B, C and D respectively is 56.5. What is the product of A and C? **(IBPS Clerk 2011)**
(a) 3363 (b) 3306 (c) 3192 (d) 3080
(e) None of these

20. The average marks in English subject of a class of 24 students is 56. If the marks of three students were misread as 44, 45 and 61 of the actual marks 48, 59 and 67 respectively, then what would be the correct average? **(IBPS PO/MT 2011)**
(a) 56.5 (b) 59 (c) 57.5 (d) 58
(e) None of these

21. Find the average of the following set of scores :
432, 623, 209, 378, 908, 168 **(IBPS Clerk 2012)**
(a) 456 (b) 455 (c) 453 (d) 458
(e) None of these

22. The sum of five consecutive odd numbers is 265. What is the sum of the largest number and twice the smallest number? **(IBPS Clerk 2012)**
(a) 156 (b) 153 (c) 155 (d) 151
(e) None of these

23. The average of five numbers is 34.4. The average of the first and the second number is 46.5. The average of the fourth and the fifth number is 18. What is the third number ? **(IBPS Clerk 2012)**
(a) 45 (b) 46 (c) 42 (d) 49
(e) None of these

24. What will be the average of the following set of scores ?
78, 69, 54, 21, 94, 48, 77 **(IBPS Clerk 2012)**
(a) 63 (b) 66 (c) 67 (d) 64
(e) None of these

25. Find the average of the following set of scores: 214, 351, 109, 333, 752, 614, 456, 547 **(RBI Assit. 2012)**
(a) 482 (b) 428 (c) 444 (d) 424
(e) None of these

26. The average of four consecutive odd numbers A, B, C and D respectively is 54. What is the product of A and C? **(RBI Assit. 2012)**
(a) 2907 (b) 2805 (c) 2703 (d) 2915
(e) None of these

27. The average age of a woman and her daughter is 19 years. The ratio of their ages is 16 : 3 respectively. What is the daughter's age? **(RBI Assit. 2012)**
(a) 9 years (b) 3 years (c) 12 years (d) 6 years
(e) None of these

28. What will be the average of the followings set of scores ?
59, 84, 44, 98, 30, 40, 58 **(SBI Clerk 2012)**
(a) 62 (b) 66 (c) 75 (d) 52
(e) 59

29. Average of five numbers is 61. If the average of first and third number is 69 and the average of second and fourth number is 69, what is the fifth number ? **(SBI Clerk 2012)**
(a) 31 (b) 29 (c) 25 (d) 35
(e) None of these

30. Average weight of 19 men is 74 kgs, and the average weight of 38 women is 63 kgs. What is the average weight (rounded off to the nearest integer) of all the men and the women together ? **(SBI Clerk 2012)**
(a) 59 kgs. (b) 65 kgs. (c) 69 kgs. (d) 67 kgs.
(e) 71 kgs.

31. The sum of the ages of 4 members of a family 5 years ago was 94 years. Today, when the daughter has been married off and replaced by a daughter-in-law, the sum of their ages is 92. Assuming that there has been no other change in the family structure and all the people are alive, what is the difference in the age of the daughter and the daughter-in-law ? **(IBPS PO/MT 2012)**
(a) 22 years (b) 11 years (c) 25 years (d) 19 years
(e) 15 years

32. The average score of a cricketer for 13 matches is 42 runs. If his average score for the first 5 matches is 54, then what is his average score (in runs) for last 8 matches? **(IBPS Clerk 2013)**
(a) 37 (b) 39 (c) 34.5 (d) 33.5
(e) 37.5

33. The average of the 9 consecutive positive integers is 63. The product of the largest and smallest integers is **(Indian Overseas PO 2013)**
(a) 3935 (b) 3953 (c) 3853 (d) 3835
(e) 3635

34. Manish brought 25 kg of rice at ₹ 32 per kg and 15 kg of rice at ₹ 36 per kg. what profit did he get when he mixed the two varieties together and sold it at ₹ 40.20 per kg? **(IBPS SO 2013)**
(a) 25% (b) 40% (c) 30% (d) 20%
(e) None of these

35. The respective ratio between the present ages of son, mother, father and grandfather is 2 : 7 : 8 : 12. The average age of son and mother is 27 yrs. What will be mother's age after 7 yrs? **(IBPS PO/MT 2013)**
(a) 40 yrs (b) 41 yrs (c) 48 yrs (d) 49 yrs
(e) None of these

36. The average age of 60 boys in a class was calculated as 12 years. It was later realised that the actual age of one of the boys in the class was 12.5 years but it was calculated as 14 years. What is the actual average age of the boys in the class? **(SBI Clerk 2014)**
(a) 11 years (b) 11.275 years
(c) 11.50 years (d) 11.975 years
(e) None of these

37. The average weight of 15 oarsmen in a boat is increased by 1.6 kg when one of the crew, who weighs 42 kg is replaced by a new man. Find the weight of the new man (in kg). **(SBI Clerk 2014)**
(a) 65 (b) 66 (c) 43 (d) 67
(e) None of these

38. The average height of 16 students is 142 cm. If the height of the teacher is included, the average height increases by 1 cm. The height of the teacher is **(Corporation Bank SO 2014)**
(a) 156 cm (b) 159 cm (c) 158 cm (d) 157 cm
(e) 159.5 cm

39. The average age of seven boys sitting in a row facing North is 26 years. If the average age of the first three boys is 19 yrs and the average age of the last three boys is 32 yrs. What is the age of the boy who is sitting in middle of the row?
(IBPS RRB 2015)
(a) 28 yrs (b) 29 yrs (c) 24 yrs (d) 31 yrs
(e) None of these

40. Find the average of first 20 multiple of 7?
(IBPS Clerk 2015)
(a) 71.5 (b) 73.5 (c) 75.2 (d) 76.6
(e) None of these

41. The average marks obtained by 100 candidates in an examination are 45. If the average marks of the passed students are 50 while the average marks of the failed students is 40. Then find the number of students who passed the examination. **(IBPS Clerk 2015)**
(a) 30 (b) 40 (c) 50 (d) 60
(e) None of these

42. The average weight of 25 students is 16 kg. The average weight of the first 12 students is 14 kg and of the last 12 students is 17 kg. Find the weight of the thirteenth student.
(IBPS SO 2015)
(a) 29 kg (b) 22 kg (c) 27 kg (d) 24 kg
(e) None of these

43. The average age of 80 girls was 20 years, the average age of 20 of them was 22 years and that of another 20 was 24 years. Find the average age of the remaining girls.
(SBI PO Prelim 2015)
(a) 17 years (b) 19 years (c) 21 years (d) 15 years
(e) None of these

44. The height of 5 boys is recorded as, 146 cm, 154 cm, 164 cm, 148 cm and 158 cm. What is the average height of all these boys? **(SBI JA & JAA 2016)**
(a) 152 cm (b) 158 cm (c) 156 cm (d) 154 cm
(e) None of these

45. James' father was 30 years old when he was born. His mother's age was 24 when his sister who is 5 years younger to him, was born. What is the difference between the age of James' father and mother? **(IBPS PO Pre 2016)**
(a) 8 (b) 10 (c) 6 (d) 11
(e) 9

46. David's present age is 2/7th of his father's present age. David's brother is three year older to James. The respective ratio between present ages of David father and David's brother is 14:5. What is the present age of David?
(IBPS PO Mains 2016)
(a) 12 years (b) 23 years (c) 19 years (d) 27 years
(e) 13 years

47. Ronit's age is 10 years more than Rohit's age. Also Ronit was twice old as Rohit 15 years ago. What will be the age of Ronit 6 years after? **(SBI PO Pre 2016)**
(a) 41 (b) 40 (c) 35 (d) 45
(e) 38

48. 18 years ago the ratio of A's age to B's age was 8:13. Present ratio of their ages is 5:7. What is the present age of B ?
(SBI PO Mains 2016)
(a) 90 years (b) 70 years (c) 60 years (d) 50 years
(e) None of these

49. The average age of a husband and wife was 23 years when they were married 5 years ago. The average age of the husband, the wife and a child who was born during the interval, is 20 years now. How old is the child now?
(SBI PO Prelim Exam 2017)
(a) 9 months (b) 1 year
(c) 3 years (d) 4 years
(e) None of these

50. There are 3 consecutive odd numbers and 3 consecutive even numbers. The smallest even number is 9 more than largest odd number. If the square of average of all the 3 given odd number is 507 less than the square of the average of all the 3 given even number, what is the smallest odd number. **(IBPS RRB Scale-I Prelim Exam 2017)**
(a) 11 (b) 13 (c) 17 (d) 19
(e) 9

51. The average monthly income of 4 earning members of a family is ₹ 7350. One member passes away and the average monthly income becomes ₹ 6500. What was the monthly income of the person, who is no more? **(IBPS PO Prelim 2017)**
(a) ₹ 6928 (b) ₹ 8200 (c) ₹ 9900 (d) ₹13850
(e) None of the above

52. The average temperature of Delhi for four days in a particular month is 48°C. If the average temperature of second and third days is 34°C and the ratio of the temperatures of first and fourth days is 9 : 11, then find out the temperatures of first and fourth days.
(IBPS PO Prelim 2017)
(a) 45.5°C, 49.9°C (b) 32.4°C, 39.8°C
(c) 43.4°C, 68.2°C (d) 52.4°C, 46.8°C
(e) None of the above

53. Five years ago, A age was 1/3 of B's age at that time. The ratio of B's age six years hence to A's age twelve years hence will be 7:4. What will be the ratio between A's age three years ago and B's age three years after?
(IBPS SO IT Officer Pre. 2018)
(a) 17 : 31 (b) 17 : 58 (c) 17 : 53 (d) 3 : 4
(e) 4 : 5

54. Ratio of present ages of P and Q is 20 : 6. After 10 years, P's age is thrice of Q's age then find present ages of P and Q?
(IBPS PO Pre-2018)
(a) 210 yrs; 70yrs (b) 180yrs; 50yrs
(c) None of these (d) 200yrs; 60yrs
(e) 220yrs; 70yrs

55. In a class there are 35 girls and 20 boys and total average weight of class is 38 kg. Total average weight of boys is 52 kg. Find the average weight of girls ? **(IBPS PO Pre-2018)**
(a) 32 kg (b) 30 kg (c) 52 kg (d) 35 kg
(e) 45 kg

56. The average salary of the school staff in a school is ₹ 4800 per month. The average salary of teachers is ₹ 8000 and that of non-teachers is ₹ 4000. If the number of teachers are 6, then find the number of non-teachers in the school? **(IBPS PO Pre-2018)**
(a) 20 (b) 12 (c) 24 (d) 18
(e) None of these

57. The total age of A, B and C five years hence will be 105 years. Find the age of C five years hence if the present age of A and B is 35 years and 25 years respectively.
(IBPS RRB Clerk Pre-2018)
(a) 31 yrs. (b) 32 yrs. (c) 35 yrs. (d) 37 yrs.
(e) 33 yrs.

58. Ratio of present ages of two persons A and B is 7:4 and after four years ratio of their age (B : A) become 6:10. Then find the present age of B? **(IBPS Clerk Pre -2018)**
(a) 20 years (b) 18 years (c) 32 years(d) 26 years
(e) 24 years

59. There are 50 students in a class in which boys are 8 more than the girls. Average weight of all the students is 50.5 kg and the average weight of all the girls is 48.5 kg then find the approximate average weight of all the boys.
(IBPS Clerk Pre -2018)
(a) 39.5 kg (b) 52 kg (c) 40.5 kg (d) 56 kg
(e) 40.25 kg

60. If 6 marks are awarded to right answer and 3 marks are penalty for wrong answer. Then Prabhat's score was 120. If he attempted 50 questions then find number of correctly attempted questions? **(IBPS Clerk Pre -2018)**
(a) 30 (b) 42 (c) 48 (d) 35
(e) 38

61. In a city, 75% of population is literate in which ratio of male to female is 9 : 5. And ratio of illiterate male to female is 3 : 2. Find the ratio of literate female to illiterate female in that city. **(IBPS Clerk Pre -2018)**
(a) 2.7 : 2 (b) 2 : 1 (c) 2.7 : 1 (d) 4 : 1
(e) 3.3 : 1.2

62. The average weight of 6 teachers in a school is 47.3 kg. When a new teacher joined them, the average weight is increased by 5.3 kg. Then find the approximate weight of the new teacher. **(RRB PO Pre-2018)**
(a) 70 kg (b) 84 kg (c) 60 kg (d) 78 kg
(e) 80 kg

63. The sum of six times of an amount 'y' and (y – 8.5) is ₹ 632. Find the approximate value of y. **(RRB PO Pre-2018)**
(a) ₹ 85 (b) ₹ 91.5 (c) ₹ 100 (d) ₹ 110
(e) ₹ 75

64. The ratio of age of Rohit 9 years hence and that of Priya 5 years hence is 5 : 4. The age of Rohit 5 years hence is equal to the age of Priya 8 years hence. Then, find the present age of Rohit. **(RRB PO Pre-2018)**
(a) 37 yrs (b) 26 yrs (c) 30 yrs (d) 24 yrs
(e) 15 yrs

65. What is the difference between 40% of A and 40% of (A + 7000). **(RRB PO Pre-2018)**
(a) 1500 (b) 1200 (c) 2800 (d) 2000
(e) 1600

66. Mr. Aditya's age is 120% of his wife Sunita's age. They have two children. The average age of family is 20 years. If Sunita's age is 25 years, what is the average age of both children?
(SBI Clerk Main-2018)
(a) 13 years (b) 12.5 years
(c) 14.5 years (d) 15 years
(e) None of these

67. Present average age of Ram, Shyam and Rohit is 22 years. Three years ago, Average age of Shyam and Rohit is 18 years, then find Ram's age 9 years hence? **(SBI Clerk Pre-2018)**
(a) 24 years (b) 27 years (c) 30 years(d) 33 years
(e) 36 years

68. Sum of A's and B's age 12 years ago is 176. A's age 36 yrs ago is equal to B's age 12 years ago. Find the age of A two year hence? **(SBI PO PRE-2018)**
(a) 114 yrs (b) 130 yrs (c) 86 yrs (d) 106 yrs
(e) 98 yrs

69. A set of five two-digit integers numbers is given. Average of first and third number is second number. Fourth number is half of first number. Sum of first, second and fourth numbers is 127. Second number is (A) and average of five numbers is (B). Fifth number is 62. What can be the values of (A) and (B) respectively? **(IBPS PO Main-2018)**
(a) 64, 50 (b) 62, 55 (c) 62, 50 (d) 64, 55
(e) 60, 55

70. When the digits of a two digit natural number are interchanged then original number is greater than four times the new number so obtained. How many such natural numbers are there which satisfy the above given condition? Ignore the numbers which have '0' in its unit place.
(IBPS PO Main-2018)
(a) 2 (b) 3 (c) 5 (d) 6
(e) 7

71. In a match of 50 overs, Indian team's average run for first thirty overs was 5 runs/over while for the remaining 20 overs the average was 4.5 runs/over. Pakistan team chased the target and lost by 10 runs. Find the average runs per over scored by Pakistan team. (Pakistan team played all the 50 overs). **(IBPS Clerk Main-2019)**
(a) 4.4 (b) 5.2 (c) 5.7 (d) 4.6
(e) 3.8

72. If 6 years are subtracted from the present age of Panas and takes 25% of that then we get the present age of his only son. 4 years ago, his daughter's age is 7 years more than his son. Sum of daughter's present age and his wife's present age is 10 years more than Panas's present age, then find the present age of Panas if average of present age of entire family is 30.25 year? **(IBPS Clerk Main-2019)**
(a) 45 year (b) 50 year (c) 60 year (d) 40 year
(e) 36 year

73. 8 years ago, the ratio of Rohan's and Sohan's age is 5 : 3. The sum of the present ages of Rohan, Sohan and Mohan is 160 years. If Mohan's present age is equal to the sum of present ages of Rohan and Sohan. What is the present age of Rohan? **(IBPS PO Prelim-2019)**
(a) 44 (b) 40 (c) 32 (d) 48
(e) 24

74. Ratio of age of Manoj 2 years age to age of Ashok 2 years hence is 1 : 2 and Anuj present age is 25% more than Manoj present age. If average of present age of Manoj & Ashok is 39 years, then find difference between Manoj age 5 years hence and Ashok present age. **(IBPS Clerk Prelim-2019)**
(a) 12 years (b) 17 years (c) 21 years(d) 15 years
(e) 14 years

75. Average weight of a class is 70 kg and average weight of boys in the class is 90kg. Ratio of boys to girls in the class is 5 : 4. If there are 81 students in the class, then find the average weight of girls in the class. **(IBPS Clerk Prelim-2019)**
(a) 54 kg (b) 42 kg (c) 35 kg (d) 45 kg
(e) 38 kg

76. Three years hence, sum of ages of P and Q will be 14 years more than the sum of present age of Q and R. Three years ago, sum of age of P and R is 30 years then find the present age of R? **(SBI PO Prelim-2019)**
(a) 24 years (b) 20 years (c) 12 years (d) 14 years
(e) 18 years

77. When the digits of a two digit natural number are interchanged then original number is greater than four times the new number so obtained. How many such natural numbers are there which satisfy the above given condition? Ignore the numbers which have '0' in its unit place. **(SBI PO Main-2019)**
(a) 2 (b) 3 (c) 5 (d) 6
(e) 7

78. 4 years ago, ratio of Arka's age to Deepak's age was 2: 3 and ratio of Arka's age 4 years ago to Deepak's age 5 years hence is 4 : 9. Find present age of Arka. **(SBI Clerk Prelim-2019)**
(a) 12 years (b) 18years (c) 14 years (d) 16 years
(e) 20 years

79. Arka Pratap divides a certain number by 5, 7 and 8 successively, the remainders are 2, 3 and 4 respectively. What would be the remainder if the order of the division is reversed? **(SBI Clerk Main-2019)**
(a) 6, 5 and 2 (b) 5, 5 and 2
(c) 4, 5 and 2 (d) 2, 5 and 4
(e) None of These

80. The ratio between the present ages of Sanjeet and Manjeet is 5:3 respectively. The ratio between Sanjeet's age 4 years ago and Manjeet's age 4 years hence is 1:1. What is the ratio between Sanjeet's age 4 years hence and Manjeet's age 4 years ago? **(SBI Clerk Main-2019)**
(a) 1:3 (b) 2:1 (c) 3:1 (d) 4:1
(e) None of These

81. If ratio of ages of Rahul and Pintu before 6 years ago is 6:4 and after 10 years sum of their ages will be 72 years, then what was Rahul age 4 years ago ? **(IBPS RRB PO Prelim-2019)**
(a) 30 years (b) 28 years (c) 27 years (d) 32 years
(e) 26 years

82. Ravindra has two sons Manish and Manoj. 8 years ago, the age of Ravindra is three less than thrice the age of the elder son Manish. 19 years ago, the age of Ravindra is 4 times the sum of the two sons. The difference between the present ages of the sons is 4 years. Find the present age of younger son Manoj. **(IBPS RRB PO Main-2019)**
(a) 14 years (b) 18 years (c) 26 years (d) 22 years
(e) 20 years

83. The sum of two numbers is 121. The square of one number is 13 more than 9 times the other number. Find the two numbers. **(IBPS RRB PO Main-2019)**
(a) 30, 91 (b) 22, 99 (c) 40, 81 (d) 29, 92
(e) 35, 86

84. The students of a class are divided into 3 groups depending on their performance in a test and the group are top, middle and bottom. The top group consists of 40% of the students, the middle group consists of 30% of the studentss and the rest are in the bottom group. The average marks of the bottom group are 25, those of the middle are 30 while the average marks for the entire class are 30. Find the average marks of the top group. **(IBPS RRB PO Main-2019)**
(a) 32.75 (b) 32.25 (c) 32 (d) 33.75
(e) None of these

85. Rohan is 6 years younger than Sohan and ratio of present age of Sohan to Mohan is 12 : 5. If ratio of present age of Rohan to Mohan is 2 : 1, then find present age of Sohan? **(IBPS RRB Clerk Prelim-2019)**
(a) 20 years (b) 30 years (c) 24 years (d) 18 years
(e) None of these

86. The ratio of present ages of Piyush and Ayush is 9 : 8. After 12 years, the ratio of their ages becomes 21 : 19. If Rohit is 8 years older than Ayush then find the present age of Rohit. **(IBPS RRB Clerk Main-2019)**
(a) 49 years (b) 79 years (c) 72 years (d) 59 years
(e) 69 years

87. Average of 15 numbers is 35. If average of first 5 numbers is 40 and average of last 3 numbers is 22, then what is the average of remaining two numbers? **(RBI Assist Prelim-2020)**
(a) 136.2 (b) 132.8 (c) 140 (d) 129.5
(e) 135.7

88. Ratio of present age of A to B is 4 : 3. If C is 8 years younger to B and difference between present age of A and B is 8 years, then what is C's age 15 years hence? **(RBI Assist Prelim-2020)**
(a) 29 years (b) 22 years (c) 31 years (d) 20 years
(e) 24 years

Answers & Explanations

1. (e) Third number
$= 5 \times 49 - 2 \times 48 - 2 \times 28$
$= 245 - 96 - 56 = 93$

2. (c) Third number
$= 5 \times 57.8 - 2 \times 77.5 - 2 \times 46$
$= 289 - 155 - 92 = 42$

3. (c) Speed of bike $= \frac{\text{Distance}}{\text{Time}}$
$= \frac{186}{3} = 62$ kmph
$\Rightarrow$ Speed of bus $= 8 \times 62 = 496$ kmph
$\therefore$ Distance covered by bus in 10 hours
$= 496 \times 10 = 4960$ km

4. (b) Required average
$= \frac{125 + 236 + 334 + 486 + 564 + 625 + 702 + 800}{8}$
$= \frac{3872}{8} = 484$

5. (a) Total height of four girls $= 4 \times 150 = 600$ cm
Total height of three girls $= 3 \times 148 = 444$ cm
Height of fourth girl $= 600 - 444 = 156$ cm

6. (c) Let the even numbers A, B, C and D be $x, x+2, x+4$ and $x+6$ respectively.
Now, according to the question,
$x + x + 2 + x + 4 + x + 6 = 4 \times 37$
$\Rightarrow 4x + 12 = 148$
$\Rightarrow 4x = 148 - 12 = 136$
$\Rightarrow x = \frac{136}{4} = 34$
$\Rightarrow$ A $= 34$ and C $= (34 + 4 =) 38$
$\Rightarrow$ A $\times$ C $= 34 \times 38 = 1292$
Alternate Method:
Average of consecutive even or odd numbers $= a + (n-1)$, where a is the smallest number.
So, average of four consecutive even numbers $= A + (4 - 1)$
or, $37 = A + 3$
or, $A = 37 - 3 = 34$
$\Rightarrow$ A $= 34$, B $= 36$, C $= 38$, D $= 40$
$\Rightarrow$ Product of A and C $= 34 \times 38 = 1292$

7. (a) Sum of eight numbers $= 474 \times 8 = 3792$
Let missing number be x
$533 + 128 + 429 + 225 + 305 + 601 + 804 + x = 3792$
$\Rightarrow 3025 + x = 3792 \quad \Rightarrow x = 3792 - 3025$
$\Rightarrow x = 767$

8. (b) Let the sum of maximum marks of all the subjects be x.
then, $\frac{x \times 85}{100} = (103 + 111 + 98 + 110 + 88)$
or, $x = \frac{510 \times 100}{85} = 600$
$\Rightarrow$ Maximum marks of each subject $= \frac{600}{5} = 120$

9. (c) Sum of the heights of all the girls $= 148 \times 21 = 3108$ cm
Sum of the heights of the teacher and all the girls $= 149 \times 22 = 3278$ cm
$\therefore$ Teacher's height $= 3278 - 3108 = 170$ cm
Alternate Solution
Teacher when entered in group of average height 148 cm, gave 21 cm to 21 students and kept 1 cm for himself.
$\therefore$ Height of teacher $= 148 + 21 + 1 = 170$ cm

10. (c) Total weight of 21 girls $= 21 \times 58 = 1218$ kg
Total weight of 21 girls and teacher
$= 22 \times 59 = 1298$ kg
Weight of the teacher $= (1298 - 1218) = 80$ kg

11. (d) Let missing number be x
$623 + 164 + 529 + 425 + x + 205 + 301 + 824 = 8 \times 472$
$3071 + x = 3776 \quad \Rightarrow x = 705$

12. (d) Let the four odd consecutive numbers be $x, x+2, x+4$, and $x+6$.
Also, A $= x$, B $= x + 2$, C $= x + 4$ and D $= x + 6$
$\Rightarrow 4x + 12 = 4 \times 40$
or, $4x = 160 - 12 = 148 \quad$ or, $x = \frac{148}{4} = 37$
$\therefore$ Numbers are A $= 37$, B $= 39$, C $= 41$, D $= 43$
$\therefore$ Product of B and D $= 39 \times 43 = 1677$
Alternate Solution :
$\because$ A, B, C, D are consecutive odd nos.
$\therefore$ Average of A, B, C, D is same as average of B, C $= 40$
$\therefore$ B $= 39$, C $= 41$, D $= 43$
$\therefore$ Product of BD $= 39 \times 43 = 1677$.

13. (a) Total weight of 21 boys $= (64 \times 21 =) 1344$ kg
Total weight along with the teacher $= (65 \times 22)$
$= 1430$ kg
$\therefore$ Teacher's weight $= (1430 - 1344 =) 86$ kg
Alternate Solution:
This problem can also be understood by the way, teacher gave 21 kgs of his weight to 21 students (1 kg to each) and himself kept 65 kgs.
$\therefore$ Weight of teacher $= 65 + 21 = 86$ kgs

14. (e) Average
$= \frac{253 + 124 + 255 + 534 + 836 + 375 + 101 + 443 + 760}{9}$
$= \frac{3681}{9} = 409$

15. (a) Let A $= x$, B $= x + 1$, C $= x + 2$, D $= x + 3$
$\therefore \quad x + x + 1 x + 2 + x = 198$
or, $4x + 6 = 198$
or, $x = 48$
$\Rightarrow \quad$ B $= 49$, D $= 51$
$\therefore$ Product of B and D $= 49 \times 51 = 2499$

16. (d) Total weight of 15 girls $= 15 \times 54 = 810$ kg.
Total weight of (15 girls + 1 teacher) $= (15 + 1) \times (54 + 2)$
$= 896$ kg
Weight of teacher $= 896 - 810 = 86$ kg.

17. (a) Required average

$$= \frac{152+635+121+423+632+744+365+253+302}{9}$$

$$= \frac{3627}{9} = 403$$

18. (b) Total number obtained by Vikram

$$= (100\times 5)\times\frac{72}{100} = 500\times\frac{72}{100} = 360$$

Number in science

$$= 360-(80+70+76+65) = 360-291 = 69$$

19. (e) Let four consecutive numbers are

$A=(x), B=(x+1), C=(x+2)$ and $D=(x+3)$

According to question

$$\text{Average} = \frac{(x)+(x+1)+(x+2)+(x+3)}{4}$$

$$\Rightarrow \quad 56.5 = \frac{4x+6}{4}$$

$$\Rightarrow \quad 226 = 4x+6$$

$$\Rightarrow \quad 4x = 226-6 = 220$$

$$x = \frac{220}{4} = 55$$

$\therefore$ Product of A and C

$$= (x)\times(x+2) = (55)\times(55+2) = 55\times 57 = 3135$$

Average of 4 nos. = average of B and C = 56.5

Alternate Solution

$\because$ B and C are consecutive nos.

$\therefore$ B = 56, C = 57

$\therefore$ A = 55

$\therefore$ A × C = 3135.

20. (e) Correct Average

$$= \frac{(24\times 56)+(48+59+67)-(44+45+61)}{24}$$

$$= \frac{1344+174-150}{24} = \frac{1368}{24} = 57$$

21. (c) $\text{Average} = \dfrac{\text{Sum of observation}}{\text{Total no. of observation}}$

Required average

$$= \frac{432+623+209+378+908+168}{6}$$

$$= \frac{2718}{6} = 453$$

22. (c) Third number $= \dfrac{265}{5} = 53$

$\Rightarrow$ Smallest number = 49, Largest number = 57

$\therefore$ Required value

$$= 57+2\times 49$$

$$= 57+98 = 155$$

23. (e) Third number

$$= 5\times 34.4 - 2\times 46.5 - 2\times 18$$

$$= 172-93-36 = 43$$

24. (a) Required average

$$= \frac{78+69+54+21+94+48+77}{7} = \frac{441}{7} = 63$$

25. (e) Required average

$$= \frac{214+351+109+333+752+614+456+547}{8} = \frac{3376}{8}$$

$$= 422$$

26. (b) Let four numbers be A, A + 2, A + 4, A + 6

$A+A+2+A+4+A+6 = 54\times 4$

$\Rightarrow 4A+12 = 216 \Rightarrow 4A = 216-12 = 204$

$$\Rightarrow A = \frac{204}{4} = 51$$

$\therefore C = A+4 = 51+4 = 55$

$\Rightarrow A\times C = 51\times 55 = 2805$

27. (d) Let Woman's age = $16x$

daughter's age = $3x$

Now $(16x+3x)/2 = 19$

$\Rightarrow$ $19x = 38 \Rightarrow x = 2$

$\Rightarrow$ Daughter's age = $3\times 2 = 6$ years

28. (e) Required average $= \dfrac{59+84+44+98+30+40+58}{7} = 59$

29. (b) Let the five no. be x_1, x_2, x_3, x_4, x_5.

Average of 5 numbers = 61

$$\frac{x_1+x_2+x_3+x_4+x_5}{5} = 61$$

$$x_1+x_2+x_3+x_4+x_5 = 305$$

Now, $\dfrac{x_1+x_3}{2} = 69$

$$x_1+x_3 = 138$$

$$\frac{x_2+x_4}{2} = 69$$

$$x_2+x_4 = 138$$

Now, $x_1+x_3+x_2+x_4+x_5 = 305$

$138+138+x_5 = 305$

$x_5 = 305-276$

$x_5 = 29$

30. (d) Average weight of 19 men = 74 kgs

Total weight of 19 men = 74 × 19 = 1406 kgs

Average weight of 38 women = 63

Total weight of 38 women = 38 × 63 = 2394

Average weight of men and women together

$$= \frac{2394+1406}{38+19} = \frac{3800}{57} = 66.66 \approx 67 \text{ kgs.}$$

31. (a) Let the 4 members are x_1, x_2, x_3, daughter

Sum of 4 members five years ago

$= x_1+x_2+x_3+$ daughter = 94

After 5 years,

$x_1+x_2+x_3+$ daughter = 114 ...(1)

$x_1+x_2+x_3+$ daughter in law = 92 ...(2)

From (1) and (2), we get difference of ages of daughter and daughter in law = 22 years.

32. (c) Let $M_1, M_2, M_3, \ldots\ldots\ldots\ldots M_{13}$ are 13 matches played by cricket players.

$$\frac{M_1+M_2+\ldots+M_{13}}{13} = 42 \qquad \ldots(1)$$

also, $\dfrac{M_1+M_2+M_3+M_4+M_5}{5} = 54 \qquad \ldots(2)$

From eqs. (1) and (2)

$270 + M_6 + M_7 + M_8 + M_9 + M_{10} + M_{11} + M_{12} + M_{13} = 42 \times 13 = 546$

or, $\frac{M_6 + M_7 + M_8 + M_9 + M_{10} + M_{11} + M_{12} + M_{13}}{8}$

$= \frac{276}{8} = 34.5$

33. (b) Let positive consecutive integers are $x, x+1, x+2 \ldots, x+8$.

$\text{Average} = \frac{x + (x+1) + \ldots + (x+8)}{9} = 63$

$\Rightarrow \quad \frac{9x+36}{9} = 63$

$\Rightarrow \quad x + 4 = 63 \Rightarrow x = 59$

Largest number, $x + 8 = 59 + 8 = 67$

Product of largest and smallest $= 59 \times 67 = 3953$

34. (d) C.P. of 40 kg of mixture

$= ₹[(25 \times 32) \Rightarrow (15 \times 36)]$

$= ₹(800 + 540) = ₹1340$

S.P. of 40 kg of mixture

$= ₹(40 \times 40.2)$

Profit $= ₹(1608 - 1340) = ₹268$

$\text{Profit } \% = \frac{268}{1340} \times 100 = 20\%$

35. (d) Total age of son and mother

$2x + 7x = 2 \times 27$

$9x = 54$

$x = 6$

$\therefore$ Mother's age after 7 yrs $= 7x + 7 = 7 \times 6 + 7 = 49$ yrs

36. (d) Let S be the sum of ages of 60 boys

Then, $12 = \frac{S}{60} \quad \ldots (1)$

$\text{New average A} = \frac{S - 14 + 12.5}{60} = \frac{S}{60} - \frac{1.05}{60}$

$= 12 - 0.025 = 11.975$

37. (b) Let the average weight of 15 Oarsmen at the start = x kg

Let the new man's weight = y kg

According to question

$15x - 42 = 15(x + 1.6) - y$

$15x - 42 = 15x + 24 - y$

$y = 24 + 42 = 66$ kg

38. (b) Total height of 16 students $= 16 \times 142$ cm $= 2272$ cm

Let height of teacher be x.

$\frac{2272 + x}{17} = 143$

$2272 + x = 2431$

$x = 2431 - 2272 = 159$

Height of teacher is 159 cm

39. (b) Age of the middle boy $= 26 \times 7 - (19 \times 3 + 32 \times 3)$

$= 182 - 153 = 29$ yrs

40. (b) Average $= 7(1 + 2 + 3 + \ldots\ldots + 20)/20$

$= (7 \times 20 \times 21)/(20 \times 2) = 73.5$

41. (c) Let P = passed students and failed students = F.

So $45 \times 100 = 50 \times P + 40 \times F$ and $P + F = 100$.

Solve for F and P, we will get P = 50.

42. (e) Sum of the weight of 25 students

$= (25 \times 16)$kg

Sum of the weight of first 12 students

$= (14 \times 12)$kg $= 168$ kg

Sum of the weight of last 12 students

$= (17 \times 12)$ kg $= 204$ kg

$\therefore$ Weight of the thirteenth student

$= (400 - 168 - 204)$ kg $= 28$ kg

43. (a) Total age of remaining 40 girls

$= (80 \times 20 - 20 \times 22 - 20 \times 24)$ years

$= (1600 - 440 - 480)$ years

$= 680$ years

$\therefore$ Required average age $= \frac{680}{40} = 17$ years

44. (d) Average height

$= \frac{146 + 154 + 164 + 148 + 158}{5} = \frac{770}{5} = 154$cm

45. (d) James' age $= F - 30$

Sister's age $= F - 35$

M = 24 + Sister's age

$M = 24 + F - 35$

$\therefore F - M = 11$

46. (a) David's father present age = x

$\text{David's age} = \frac{2}{7}x$

$\text{David's brother age} = \frac{2}{7}x + 3$

According to question

$\frac{x}{\frac{2}{7}x + 3} = \frac{14}{5}$

$\Rightarrow x = 42$

$\text{David's age} = \frac{2}{7}x = \frac{2}{7} \times 42 = 12$

47. (a) Rohit = x, Ronit = x+10

$(x + 10) - 15 = 2(x - 15)$

$\Rightarrow x = 25$

Ronit's 6 years after $= x + 10 + 6 = 41$

48. (b) $\frac{8x + 18}{13x + 18} = \frac{5}{7}$

$\Rightarrow 56x + 126 = 65x + 90$

$\Rightarrow x = 4$

$\Rightarrow$ B's age $= 13 \times 4 + 18 = 70$

Alternate Solution :

$\because$ Present age of B is in ratio of 5 : 7, from this we can observe, age of B is multiple of 7, thus eleminating options.

49. (d) Present total age of husband and wife

$= 23 \times 2 + 2 \times 5 = 56$

Present total age of husband, wife and child

$= 3 \times 20 = 60$

$\therefore$ Present age of child = 4 year

50. (a) Let 3 consecutive odd numbers = x – 2,

x and x + 2

and consecutive even numbers = y – 2, y, y + 2

So, $y - 2 = 9 + x + 2$

$y - x = 13 \quad \ldots$(i)

and

$(x)^2 + 507 = (y)^2$

$y^2 - x^2 = 507$

$(x+y)(y-x)=507$

$(x+y)=\frac{507}{13}\Rightarrow x+y=39$ ...(ii)

Solving (i) and (ii) $y=26$ and $x=13$

so smallest odd number $=x-2$

$=13-2=11$

51. (c) Monthly income of 4 persons

$=7350\times4=₹29400$

Monthly income of 3 persons (excluding the dead person) $=6500\times3=₹19500$

$\therefore$ Monthly income of dead person $=29400-19500$

$=₹9900$

52. (e) Total temperature of first and fourth day

$=(4\times48-2\times34)°C$

$=(192-68)°C=124°C$

Now, according to the question, temperature of the first day

$=\frac{9}{20}\times124=55.8°C$

Temperature of the fourth day

$=\frac{11}{20}\times124=68.2°C$

53. (c) Let the age of A, 5 years ago be x

Then, the age of B, 5 years ago will be 3x

According to question

$(3x+5+6)/(x+5+12)=7/4$

$(3x+11)/(x+17)=7/4$

$12x+44=7x+119$

$5x=119-44$

$5x=75$

$x=15$

A's present age $=15+5=20$

B's present age $=3\times15+5=45+5=50$

Required ratio $=(20-3):(50+3)=17:53$

54. (d) Let present age of P and Q be 20x yrs and 6x yrs respectively

ATQ,

$\frac{20x+10}{6x+10}=\frac{3}{1}$

$\Rightarrow 2x=20$

$\Rightarrow x=10$

Present age of P = 200 yrs

Present age of Q = 60 yrs

55. (b) Total weight of students = 38(20 + 35) = 2090 kg

Total weight of boys = 20 × 52 = 1040 kg

Average weight of girls $=\left(\frac{2090-1040}{35}\right)kg=30kg$

56. (c)

Teachers	Non-teachers
8000	4000
4800	4800
3200	800

Ratio = 3200 : 800 = 4 : 1

No. of non-teachers $=\frac{4}{1}\times6=24$

57. (c) Sum of present age of A, B and C

$=105-5\times3$

$=105-15$

$=90$ yrs.

Present age of C $=90-(35+25)=30$ yrs.

Age of C five years hence $=30+5=35$ yrs.

58. (c) Let the present age of A and B be 7x and 4x years respectively

ATQ,

$\frac{7x+4}{4x+4}=\frac{10}{6}$

$\Rightarrow 40x+40=42x+24 \quad \Rightarrow 2x=16$

$\therefore x=8$

Present age of B = 32 years.

59. (b) Let the number of girls be x

Then, boys = x + 8

ATQ,

$x+8+x=50$

$x=21$

total weight of all students = 50 × 50.5 = 2525 kg

total weight of girls = 21 × 48.5 = 1018.5 kg

weight of all boys = 2525 – 1018.5 = 1506.5 kg

average weight of all boys $=\frac{1506.5}{29}\approx52kg$

60. (a) Let number of correct questions be x

Then, incorrect questions = (50 – x)

ATQ,

$x\times6-(50-x)\times3=120$

$x=30$

$\therefore$ Correct questions = 30.

61. (c) Let the total population of that city be 100x

Then literate population = 75x

Literate male $=75x\times\frac{9}{14}=48x$

Literate female = 27x

Illiterate population = 25x

Illiterate female $=25x\times\frac{2}{5}=10x$

Required ratio $=\frac{27x}{10x}=2.7:1$

62. (b) Weight of new teacher

$=7\times(47.3+5.3)-6\times47.3$

$368.2-283.8$

≈84 kg

63. (b) ATQ, $6y+y-8.5=632$

$7y=640.5$

$y=91.5$

64. (b) Let present age of Rohit & Priya be x year & y year respectively

$\therefore$ ATQ,

$\frac{x+9}{y+5}=\frac{5}{4}$

$4x+36=5y+25$

$5y-4x=11$ ...(i)

$x+5=y+8$

$-y+x=3$ ...(ii)

From equations (i) and (ii)

$\therefore x=26$ years

$\therefore$ present age of Rohit is 26 years

65. (c) Required difference

$=\frac{40}{100}(A+7000)-\frac{40}{100}\times A=\frac{40}{100}(A+7000-A)$

$=2800$

66. (b) Age of Mr. Aditya = $\frac{120}{100} \times 25 = 30$ years

$\therefore$ Average age of children = $\frac{1}{2} \times (20 \times 4 - 55)$
= 12.5 years

67. (d) Sum of present ages of Ram, Shyam and Rohit
= 66 years
Sum of present age of Shyam and Rohit
= 18 × 2 + 6 = 42
Present age of Ram = 66 – 42 = 24
Ram's age nine years hence = 24 + 9 = 33 years

68. (a) Let present age of A be x yrs
& present age of B be y yrs.
ATQ,
x + y = 176 + 24
x + y = 200 .....(i)
x – 36 = y – 12
x – y = 24 .....(ii)
solving (i) & (ii)
x = 112
$\therefore$ age of A 2 year hence = 114 yrs

69. (d) Let first and third numbers be '2x' and '2a' respectively.
Then, second number (A) = $\frac{2x+2a}{2} = x + a$
fourth number = $\frac{2x}{2} = x$
Then, five numbers are : 2x, (x+a), 2a, x, 62
ATQ,
2x + x + x + a = 127
4x + a = 127
From option (a) x + a = 64
$\Rightarrow$ 3x = 63
$\Rightarrow$ x = 21
Average of five numbers
$= \frac{42+64+2(64-21)+21+62}{5} = 55$
According to this, option (d) 64, 55 is the correct answer.

70. (b) Let the original number by xy
According to given condition
(10x + y) > 4(10y + x)
6x – 39y > 0
On putting y=1
x has to be more than or equal to 7
So for y = 1,
Possible values for x are 7, 8, 9
So, 3 numbers are possible when y is 1
(71), (81), (91)
Values greater than 1 are not possible for y.
So there are 3 possible numbers.

71. (d) Total runs scored by Pakistan team
= 30 × 5 + 20 × 4.5 – 10 = 230
$\therefore$ Required answer = $\frac{230}{50} = 4.6$

72. (b) Let the present age of Panas be x yr.
Present age of his son = $\frac{x-6}{4}$ yr
Present age of his daughter = $\left(\frac{x-6}{4}+7\right)$ yr
Present age of his wife
= (x + 10) – $\left\{\left(\frac{x-6}{4}+7\right)\right\} = \frac{3x+18}{4}$ yr
ATQ
$x + \frac{x-6}{4} + \left(\frac{x-6}{4}+7\right) + \frac{3x+18}{4} = 121$
x = 50 yr

73. (d) 8 years ago, the ratio of Rohan's and Sohan's age
$= 5:3 \Rightarrow (5x:3x)$
Given that,
$5x+3x+16+(5x+3x+16)=160$
$16x+32=160$
$x=8$
Present age of Rohan = 5 × 8 + 8 = 48 years

74. (b) Let present age of Manoj be 4x years.
So, present age of Anuj = $\frac{125}{100} \times 4x = 5x$ years
Now, present age of Ashok = (4x – 2) × 2 – 2
= (8x – 6) years
According to question,
$\frac{4x+8x-6}{2} = 39$
x = 7
Required difference = (8 × 7 – 6) – (4× 7 + 5)
= 50 – 33 = 17 years.

75. (d) Number of boys in the class
$= 81 \times \frac{5}{9} = 45$
Number of girls in the class of girls
$= 81 \times \frac{4}{9} = 36$
Required average of girls
$= \frac{(70 \times 81) - (45 \times 90)}{36}$
$= \frac{5670 - 4050}{36} = 45$ kg.

76. (d) Let the present age of P, Q and R be x, y and z years respectively
According to the question,
(x + 3) + (y + 3) = (y + z) + 14
x – z = 8 ...(i)
And (x – 3) + (z – 3) = 30
x + z = 36 ...(ii)
From (i) and (ii)
z = 14 years

77. (b) Let the original number be xy
According to given condition
(10x + y) > 4(10y + x)
6x – 39y > 0
On putting y=1
x has to be more than or equal to 7
So for y = 1,
Possible values for x are 7, 8, 9
So, 3 numbers are possible when y is 1
(71), (81), (91)
Values greater than 1 are not possible for y.
So there are 3 possible numbers.

78. (d) Let age of Arka and Deepak 4 years ago be '2x years' and '3x years' respectively.

ATQ,

$$\frac{2x}{3x+4+5}=\frac{4}{9}$$

$$\frac{2x}{3x+9}=\frac{4}{9}$$

$=12x+36$

$6x=36$

$x=6$

So, present age of Arka $=2x+4=16$ years

79. (b) Let the certain number

$N=5[7(8x+4)+3]+2=35(8x)+140+17=280x+157$

When this is divided by 8, quotient $= 35x + 19$ and remainder $= 5$

When $(35x + 19)$ is divided by 7, quotient $= 5x + 2$ and remainder $= 5$

When $(5x + 2)$ is divided by 5, quotient $= x$ and remainder $= 2$.

80. (c) Let the Present age is $= x$

	Sanjeet	Manjeet
Past	$(5x-4)$	
Present	$5x$	$3x$
Future		$(3x+4)$

According to question,

$(5x-4)/(3x+4)=1:1$

So, $(5x-4)=(3x+4)$

Solving we get $2x=8$

$x=4$

Hence, Sanjeet's present age $= 5x = 5 \times 4 = 20$ and after 4 years it will be 24 years.

Manjeet's present age $= 3x = 3 \times 4 = 12$ and before 4 years it was 8 years

Thus Ratio will be $24:8 = 3:1$

81. (e)

Rahul	Pintu
-6	6
	4

$+10$ Rahul $+$ Pintu $= 72$

Age increased in 16 years = 32 years

Sum of age of Rahul and Pintu after 10 years = 40

$\therefore 6x+4x=40$

$x=4$

Rahul age 4 years ago $= 6x + 2 = 26$ years

82. (d) Let x, y, z be the present ages of Ravindra, elder son Manish and younger son Manoj respectively.

By data,

$(x-8)=3\times(y-8)-3$

$x-8=3y-24-3$

$x-8=3y-27$ ....(i)

$(x-19)=4\times(y+z-38)$

$y-z=4,\ y=z+4$ .... (ii)

$(x-19)=4\times(2z+4-38)$

$x-19=4\times(2z-34)$

$x-19=8z-136$

$8z-x=117$ .... (iii)

From equations (i) and (ii) we get

$x-8=3(z+4)-27$

$x-8=3z+12-27$

$x-3z=-7$ ...(iv)

From equations (iii) and (iv) we get

$8z+7-3z=117$

$z=\frac{110}{5}=22$

younger son Manoj, age = 22 years

83. (d) Let a and b be the two numbers.

$a+b=121$ ...(i)

$a^2=13+(9\times b)$ ...(ii)

From equation (i) and (ii) we get

$a^2=13+9(121-a)$

$a^2=13+1089-9a$

$a^2+9a-1102=0$

$a^2+38a-29a-1102=0$

$a(a+38)-29(a+38)=0$

$a(a-29)(a+38)=0$

$a=29,-38;$

$a = 29$ (we take positive value)

$b=121-29=92$

84. (d)

	Top	Middle	Bottom	Total
Number of student	40	30	30	100
Average	x	30	25	30

Let the total number of students in the class = 100.

The data given in the question is shown in the table.

Let average of top group be x

$(40\times x)+(30\times 30)+(30\times 25)=100\times 30$

$\Rightarrow 40x=3000-900-750$

$\Rightarrow 40x=1350$

$\therefore x=33.75$

85. (e) Let present age of Sohan and Mohan be $12x$ years and $5x$ years respectively.

Then, present age of Rohan $= 10x$ years

ATQ,

$12x-10x=6$

$x=3$

Present age of Sohan = 36 years

86. (c) The ratio of present ages of Piyush and Ayush is 9 : 8

Let their ages be 9x and 8x respectively.

After 12 years, the ratio between their ages becomes 21 : 19.

$\Rightarrow (9x+12)/(8x+12)=21/19$

$\Rightarrow x=8$

$\Rightarrow$ Present age of Ayush = 64 years

Rohit is 8 years older than Ayush

$\therefore$ Present age of Rohit = (64 + 8) years = 72 years.

87. (d) Sum of 15 numbers $= 35 \times 15 = 525$

Average of remaining 2 number $=\frac{\{525-(200+66)\}}{2}$

$=129.5$

88. (c) Let Present age of A and B be $4x$ years and $3x$ years respectively.

ATQ, $4x-3x=8$

$x=8$

Present age of B $= 8 \times 3 = 24$ years

Present age of C $= 24 - 8 = 16$ years.

15 years hence Age of C $= 16 + 15 = 31$ years.