6 CHAPTER

Percentage

1. 28% members of a certain group are married. What is the respective ratio between the number of married members to the number of unmarried members? **(SBI Clerk 2011)**
(a) 7 : 17 (b) 5 : 18 (c) 7 : 18
(d) Cannot be determined (e) None of these

2. If the numerator of certain fraction is increased by 200% and the denominator is increased by 150% the new fraction thus formed is $\frac{9}{10}$. What is the original fraction ? **(SBI Clerk 2011)**
(a) $\frac{3}{4}$ (b) $\frac{1}{4}$ (c) $\frac{3}{5}$ (d) $\frac{2}{5}$
(e) None of these

3. If the numerator of a certain fractions increased by 100% and the denominator is increased by 200%; the new fraction thus formed is $\frac{4}{21}$. What is the original fraction ? **(SBI Clerk 2011)**
(a) $\frac{2}{7}$ (b) $\frac{3}{7}$ (c) $\frac{2}{5}$ (d) $\frac{4}{7}$
(e) None of these

4. 52% students from a college participated in a survey. What is the respective ratio between the number of students who did not participate in the survey to the number of students who participated ? **(SBI Clerk 2011)**
(a) 11 : 13 (b) 12 : 13 (c) 12: 17
(d) Cannot be determined (e) None of these

5. The difference between 55% of a number and 14% of the same number is 8610. What is 85% of that number? **(IBPS Clerk 2011)**
(a) 17850 (b) 15820 (c) 17020 (d) 18450
(e) None of these

6. Animesh got 102 marks in Hindi, 118 marks in Science, 104 marks in Sanskrit, 114 marks in Maths and 96 marks in English. The maximum marks of each subject are 120. How much overall percentage of marks did Animesh get? **(IBPS Clerk 2011)**
(a) 89 (b) 82 (c) 77 (d) 71
(e) None of these

7. In an examination it is required to get 55% of the aggregate marks to pass. A student gets 520 marks and is declared failed by 5% marks. What are the maximum aggregate marks a student can get? **(IBPS Clerk 2011)**
(a) 960 (b) 1250 (c) 1040
(d) Cannot be determined (e) None of these

8. The product of 5% of a positive number and 2% of the same number is 211.6. What is half of that number? **(IBPS Clerk 2011)**
(a) 230 (b) 460 (c) 920 (d) 115
(e) None of these

9. In an examination, the maximum aggregate marks are 1020. In order to pass the exam a student is required to obtain 663 marks out of the aggregate marks. Shreya obtained 612 marks. By what percent did Shreya fail the exam? **(IBPS Clerk 2011)**
(a) 5% (b) 8% (c) 7%
(d) Cannot be determined (e) None of these

10. Madhur got 101 marks in Hindi, 100 marks in Science, 96 marks in Sanskrit, 108 marks in Maths and 78 marks in English. If the maximum marks of each subject is equal and if Madhur scored 84 per cent marks in all the subjects together, what is the maximum marks of each subject? **(IBPS Clerk 2011)**
(a) 110 (b) 120 (c) 115 (d) 100
(e) None of these

11. The product of 5% of a positive number and 3% of the same number is 504.6. What is half of that number? **(IBPS Clerk 2011)**
(a) 290 (b) 340 (c) 680 (d) 580
(e) None of these

12. In an examination, the maximum aggregate marks that a student can get is 1040. In order to pass the exam, a student is required to get 676 marks out of the aggregate marks. Mina got 624 marks. By what per cent did Mina fail in the exam? **(IBPS Clerk 2011)**
(a) 5% (b) 8% (c) 7%
(d) Cannot be determined (e) None of these

13. The sum of 15% of a positive number and 20% of the same number is 126. What is one-third of that number? **(IBPS Clerk 2011)**
(a) 360 (b) 1080 (c) 120 (d) 40
(e) None of these

14. Nandita scored 80% marks in five subjects together viz Hindi, Science, Maths, English and Sanskrit, where in the maximum marks of each subject were 105. How many marks did Nandita score in Science if she scored 89 marks in Hindi, 92 marks in Sanskrit, 98 marks in Maths and 81 marks in English? **(IBPS Clerk 2011)**
(a) 60 (b) 75 (c) 65 (d) 70
(e) None of these

15. Niraj incurred a loss of 55 per cent on selling an article for ₹ 9,549. What was the cost price of the article? **(IBPS Clerk 2011)**
(a) ₹ 27,700 (b) ₹ 25,600 (c) ₹ 21,220 (d) ₹ 29,000
(e) None of these

16. In order to pass in an exam, a student is required to get 780 marks out of the aggregate marks. Sonu got 728 marks and was declared failed by 5 per cent. What are the maximum aggregate marks a student .can get in the examination? **(IBPS Clerk 2011)**
(a) 1040 (b) 1100 (c) 1000
(d) Cannot be determined (e) None of these

17. The sum of 15% of a positive number and 10% of the same number is 70. What is twice of that number? **(IBPS Clerk 2011)**
(a) 440 (b) 280 (c) 560 (d) 140
(e) None of these

18. In order to pass in an exam a student is required to get 975 marks out of the aggregate marks. Priya got 870 marks and was declared failed by 7 per cent. What are the maximum aggregate marks a student can get in the examination? **(IBPS Clerk 2011)**
(a) 1500 (b) 1000 (c) 1200
(d) Cannot be determined (e) None of these

19. In a town three newspapers A, B and C are published. 42% of the people in that town read A, 68% read B, 51% read C, 30% read A and B, 28% read B and C, 36% A and C and 18% do not read any paper. Find the % of population of town that reads all the three. **(SBI PO 2011)**
(a) 15% (b) 25% (c) 20% (d) 35%
(e) None of these

20. A salesgirl's terms were changed from a flat commission of 5% on all her sales to a fixed salary of ₹ 1000 plus 2.5% commission on all sales exceeding ₹4000. If her remuneration as per the new scheme was ₹600 more than that by the previous scheme, her total sales was **(SBI PO 2011)**
(a) ₹10000 (b) ₹5000 (c) ₹2000 (d) ₹12000
(e) None of these

21. The product of one-third of a number and 150% of another number is what per cent of the product of the original numbers? **(SBI PO 2011)**
(a) 80% (b) 50% (c) 75% (d) 120%
(e) None of these

22. Mr Shamin's salary increases every year by 10% in June. If there is no other increase or reduction in the salary and his salary in June 2011 was ₹22,385, what was his salary in June 2009? **(SBI PO 2011)**
(a) ₹18,650 (b) ₹18,000 (c) ₹19,250 (d) ₹18,500
(e) None of these

23. An HR Company employes 4800 people, out of which 45 percent are males and 60 percent of the males are either 25 years or older. How many males are employed in that HR Company who are younger than 25 years ? **(IBPS PO/MT 2011)**
(a) 2640 (b) 2160 (c) 1296 (d) 864
(e) None of these

24. Ramola's monthly income is three times Ravina's monthly income. Ravina's monthly income is fifteen percent more than Ruchira's monthly income. Ruchira's monthly income is ₹ 32,000. What is Ramola's annual income ? **(IBPS PO/MT 2011)**
(a) ₹1,10,400 (b) ₹13,24,800 (c) ₹36,800
(d) ₹52,200 (e) None of these

25. In an Entrance Examination Ritu scored 56 percent marks, Smita scored 92 percent marks and Rina scored 634 marks. The maximum marks of the examination are 875. What are the average marks scored by all the three girls together? **(IBPS PO/MT 2011)**
(a) 1929 (b) 815 (c) 690 (d) 643
(e) None of these

26. If the numerator of a fraction is increased by 300% and the denominator is increased by 200%, the resultant fraction is $\frac{4}{15}$. What is the original fraction ? **(IBPS Clerk 2015)**
(a) $\frac{3}{5}$ (b) $\frac{4}{5}$ (c) $\frac{2}{5}$ (d) $\frac{1}{5}$
(e) None of these

27. The sum of 55% of a number and 40% of the same number is 180.5. What is 80% of that number? **(RBI Assit. 2012)**
(a) 134 (b) 152 (c) 148 (d) 166
(e) None of these

28. There are 950 employees in an organization, out of which 28% got promoted. How many empolyees got promoted? **(RBI Assit. 2012)**
(a) 226 (b) 256 (c) 266 (d) 216
(e) None of these

29. In an examination it is required to get 65% of the aggregate marks to pass, A student gets 847 marks and is declared failed by 10% marks. What are the **maximum** aggregate marks a student can get? **(RBI Assit. 2012)**
(a) 1450 (b) 1640 (c) 1500
(d) Cannot be determined (e) None of these

30. Last year there were 610 boys in a school. The number decreased by 20 percent this year. How many girls are there in the school if the number of girls is 175 percent of the total number of boys in the school this year ? **(SBI Clerk 2012)**
(a) 854 (b) 848 (c) 798 (d) 782
(e) None of these

31. A student was awarded certain marks in an examination. However, after re-evaluation, his marks were reduced by 40% of the marks that were originally awarded to him so that the new score now became 96. How many marks did the student lose after re-evaluation ? **(SBI Clerk 2012)**
(a) 58 (b) 68 (c) 63 (d) 56
(e) 64

32. 855 candidates applied for a job, out of which 80% of the candidates were rejected. How many candidates were selected for the job ? **(SBI Clerk 2012)**
(a) 684 (b) 151 (c) 676 (d) 179
(e) None of these

33. What should come in place of the question mark so that it satisfies inequality of the equation ? **(SBI Clerk 2012)**
32% of 750 < ?
(a) 23% of 600 (b) 46% of 207
(c) 98% of 250 (d) 75% of 320
(e) None of these

34. Mathew scored 42 marks in Biology, 51 marks in Chemistry, 58 marks Mathematics, 35 marks in Physics and 48 marks in English. The maximum marks a student can score in each subject are 60. How much overall percentage did Mathew get in this exam ? **(SBI Clerk 2012)**
(a) 76 (b) 82 (c) 68 (d) 78
(e) None of these

35. Sum of three consecutive numbers is 2262. What is 41 % of the highest number? **(IBPS PO/MT 2012)**
(a) 301.51 (b) 303.14 (c) 308.73 (d) 306.35
(e) 309.55

36. The respective ratio of salaries of A and B is 8 : 7. If the salary of B increases by 20% and the salary of A increases by 21%, the new ratio becomes 96 : 77 respectively. What is A's salary? **(IBPS Clerk 2013)**
(a) ₹22560 (b) ₹21600 (c) ₹20640 (d) ₹23040
(e) Cannot be determined

37. A merchant bought some goods worth ₹ 6000 and sold half of them at 12% profit. At what profit per cent should he sell the remaining goods to make and overall profit of 18%? **(IBPS Clerk 2013)**
(a) 24 (b) 28 (c) 18 (d) 20
(e) 26

38. Prema decided to donate 15% of her salary to an orphanage. On the day of donation she changed her mind and donated ₹ 1,896 which was 80% of what she had decided earlier. How much is Prerna's salary? **(IBPS RRB 2013)**
(a) ₹18,500 (b) ₹10,250 (c) ₹15,800
(d) Cannot be determined (e) None of these

39. If the numerator of a fraction is increased by 600% and the denominator is increased by 200%, the resulting fraction is $2\frac{4}{5}$. What was the original fraction? **(IBPS RRB 2013)**
(a) $\frac{4}{7}$ (b) $\frac{13}{12}$ (c) $\frac{11}{12}$ (d) $\frac{6}{5}$
(e) None of these

40. If the numerator of a fraction is increased by 20% and the denominator is increased by 25%, the fraction obtained is $\frac{3}{5}$. What was the original fraction? **(IBPS PO/MT 2013)**
(a) $\frac{5}{7}$ (b) $\frac{4}{7}$ (c) $\frac{3}{8}$
(d) Cannot be determined (e) None of these

41. In an examination, Raman scored 25 marks less than Rohit. Rohit scored 45 more marks than Sonia. Rohan scored 75 marks which is 10 more than Sonia. Ravi's score is 50 less than, maximum marks of the test. What approximate percentage of marks did Ravi score in the examination, if he gets 34 marks more than Raman? **(IBPS PO/MT 2013)**
(a) 90 (b) 70 (c) 80 (d) 60
(e) 85

42. Mr Giridhar spends 50% of his monthly income on household items and out of the remaining he spends 50% on transport, 25% on entertainment, 10% on sports and the remaining amount of ₹ 900 is saved. What is Mr Giridhar's monthly income? **(IBPS PO/MT 2013)**
(a) ₹6000 (b) ₹12000 (c) ₹9000
(d) Cannot be determined (e) None of these

43. 10% of the inhabitants of a village having died of cholera, a panic set in, during which 25% of the remaining inhabitants left the village. The population is then reduced to 4050. Find the number of original inhabitants. **(IBPS Clerk 2014)**
(a) 5000 (b) 6000 (c) 7000 (d) 8000
(e) None of these

44. 'A' sells a good to 'B' at a profit of 20 % and 'B' sells it to C at profit of 25 %. If 'C' pays ₹ 225 for it, what was cost price for 'A' ? **(IBPS Clerk 2014)**
(a) 150 (b) 120 (c) 200 (d) 110
(e) None of these

45. The salaries of A,B,C are in the ratio 2 : 3 : 5. If the increments of 15%, 10% and 20% are allowed respectively in their salaries, then what will be the new ratio of their salaries? **(IBPS Clerk 2014)**
(a) 3 : 3 : 10 (b) 10 : 11 : 20 (c) 23 : 33 : 60
(d) Cannot be determined (e) None of these

46. Naresh's monthly income is 30% more than that of Raghu. Raghu's monthly income is 20% less than that of Vishal. If the difference between the monthly incomes of Naresh and Vishal is ₹ 800, what is the monthly income of Raghu? **(IBPS Clerk 2014)**
(a) ₹16,000 (b) ₹20,000 (c) ₹12,000
(d) Data inadequate (e) None of these

47. Ajay spends 25 per cent of his salary on house rent, 5 per cent on food, 15 per cent on travel, 10 per cent on clothes and the remaining amount of ₹ 27,000 is saved. What is Ajay's income ? **(SBI Clerk 2014)**
(a) ₹60,000 (b) ₹80,500 (c) ₹60,700 (d) ₹70,500
(e) None of these

48. Groundnut oil is now being sold at ₹ 27 per kg. During last month its cost was ₹ 24 per kg. Find by how much % a family should reduce its consumption, so as to keep the expenditure same. **(IBPS PO/MT 2014)**
(a) $11\frac{1}{9}\%$ (b) $11\frac{1}{11}\%$ (c) $11\frac{9}{10}\%$ (d) $9\frac{1}{10}\%$
(e) None of these

49. If 50% of a certain number is equal to $\frac{3}{4}$th of another number, what is the ratio between the numbers? **(Corporation Bank SO)**
(a) 3 : 2 (b) 2 : 5 (c) 5 : 2 (d) 3 : 4
(e) 4 : 3

50. Five-ninths of number is equal to twenty five percent of the second number. The second number is equal to one-fourth of the third number. The value of the thrid number is 2960. What is 30 percent of the first number. **(IBPS RRB 2015)**
(a) 88.8 (b) 99.9 (c) 66.6
(d) Cannot be determined (e) None of these

51. A petrol pump owner mixed leaded and unleaded petrol in such a way that the mixture contains 10% unleaded petrol. What quantity of leaded petrol should be added to 1 litre mixture so that the percentage of unleaded petrol becomes 5%? **(IBPS RRB 2015)**

(a) 1000ml (b) 900ml (c) 1900ml (d) 1800ml
(e) None of these

52. A manufacture undertakes to supply 2000 pieces of a particular component at ₹ 25 per piece. According to his estimates, even if 5% fail to pass the quality tests, then he will make a profit of 25%. However as it turned out, 50% of the components were rejected. What is the loss to the manufacture? **(IBPS Clerk 2015)**
(a) ₹12,000 (b) ₹13,000 (c) ₹14,000 (d) ₹15,000
(e) None of these

53. A man losses 20% of his money. After spending 25% of the remaining, he has ₹ 480 left. What is the amount of money he originally had? **(SBI Clerk 2015)**
(a) ₹600 (b) ₹720 (c) ₹800 (d) ₹840
(e) None of these

54. In an examination, 40% of the candidates wrote their answers in Hindi and the others in English. The average marks of the candidates written in Hindi is 74 and the average marks of the candidates written in English is 77. What is the average marks of all the candidates ? **(SBI Clerk 2015)**
(a) 75.5 (b) 75.8 (c) 76.0 (d) 76.8
(e) None of these

55. A person could save 10% of his income. But 2 years later, when his income increased by 20%, he could save the same amount only as before. By how much percentage has his expenditure increased? **(IBPS RRB 2015)**
(a) $22\frac{2}{9}\%$ (b) $23\frac{1}{3}\%$ (c) $24\frac{2}{9}\%$ (d) $25\frac{2}{9}\%$
(e) None of these

56. Ram spends 50% of his monthly income on household items, 20% of his monthly income on buying clothes, 5% of his monthly income on medicines and saves remaining ₹ 11,250. What is Ram's monthly income?
(a) ₹38,200 (b) ₹34,000 (c) ₹41,600 (d) ₹45,000
(e) None of these

57. If the numerator of a fraction is increased by 350% and the denominator of the fraction is increased by 300% the resultant fraction is $\frac{9}{22}$. What is the original fraction ? **(IBPS PO 2015)**
(a) $\frac{3}{4}$ (b) $\frac{5}{12}$ (c) $\frac{7}{9}$ (d) $\frac{4}{11}$
(e) None of these

58. Ms. Sujata invests 7% i.e. ₹ 2170 of her monthly salary in mutual funds. Later she invests 18% of her monthly salary in recurring deposits also, she invests 6% of her salary on NSC's. What is the total annual amount invested by Ms. Sujata ? **(IBPS PO 2015)**
(a) ₹1,25,320 (b) ₹1,13,520 (c) ₹1,35,120
(d) ₹1,15,320 (e) None of these

59. Sujata scored 2240 marks in an examination that is 128 marks more than the minimum passing percentage of 64%. What is the percentage of marks obtained by Meena if she scores 907 marks less than Sujata? **(IBPS PO 2015)**
(a) 35 (b) 40 (c) 45 (d) 36
(e) 48

60. If tax on a commodity is reduced by 10%, total revenue remains unchanged. What is the percentage increase in its consumption? **(IBPS PO 2015)**
(a) $11\frac{1}{9}\%$ (b) 20% (c) 10% (d) $9\frac{1}{11}\%$
(e) None of these

61. If the numerator of a fraction is increased by 300% and the denominator is increased by 500%, the resultant fraction is $\frac{5}{12}$. What was the original fraction? **(IBPS PO 2015)**
(a) $\frac{8}{5}$ (b) $\frac{5}{11}$ (c) $\frac{12}{5}$ (d) $\frac{5}{7}$
(e) None of these

62. Ms. Pooja Pushpan invests 13% of her monthly salary, i.e. ₹, 8554 in Mediclaim Policies, Later she invests 23% of her monthly salary on Child. Education Policies; also she invests another 8% of her monthly salary on Mutual Funds. What is the total annual amount invested by Ms. Pooja Pushpan? **(IBPS PO 2015)**
(a) ₹ 28952 (b) ₹ 43428 (c) ₹ 347424
(d) ₹ 173712 (e) None of these

63. In a class of 240 students, each student got sweets that are 15% of the total number of students. How many sweets were there? **(IBPS PO 2015)**
(a) 3000 (b) 3125 (c) 8640
(d) Cannot be determined (e) None of these

64. Bina's monthly income is 90% of Anita's monthly income. The total of both their monthly incomes is Mr. Sen's monthly income. Mr. Sen's annual income is 7,75,200. What is Bina's monthly income? **(SBI JA & JAA 2016)**
(a) ₹34,000 (b) ₹36,000 (c) ₹30,600 (d) ₹30,000
(e) None of these

65. What is the value of three fourth of sixty per cent of 480? **(SBI JA & JAA 2016)**
(a) 216 (b) 218 (c) 212 (d) 214
(e) None of these

66. It is required to get 40% marks to pass an exam. A candidate scored 200 marks and failed by 8 marks. What were the maximum marks of that exam? **(SBI JA & JAA 2016)**
(a) 530 (b) 540 (c) 502
(d) Cannot be determined (e) None of these

67. A has double the money of B and B has 50% more money than C. If average money of all the three persons is 12000, how much money A have? **(SBI Clerk 2016)**
(a) $\frac{211000}{11}$ (b) $\frac{315000}{11}$ (c) $\frac{216000}{11}$
(d) $\frac{316000}{11}$ (e) None of the above

68. In an examination out of 480 students, 85% of the girls and 70% of the boys have passed.
How many boys appeared in the examination,if total pass percentage was 75%? **(SBI Clerk 2016)**
(a) 370 (b) 340 (c) 320 (d) 360
(e) None of these

69. Fresh grapes contain 80% water, while dry grapes contain 10% water. If the weight of dry grapes is 500 kg, then what is its totalweight when it is fresh? **(SBI Clerk 2016)**
(a) 2350kg (b) 2085kg (c) 2255kg (d) 2250kg
(e) None of these

70. Number of students in 4th and 5th class is in the ratio 6 : 11. 40% in class 4 are girls and 48% in class 5 are girls. What percentage of students in both the classes are boys? **(IBPS Clerk Main 2016)**
(a) 62.5% (b) 54.8% (c) 52.6% (d) 55.8%
(e) 53.5%

71. When the price of rice is increased by 25 percent, a family reduces its consumption such that the expenditure is only 10 percent more than before. If 40 kg of rice is consumed by family before, then find the new consumption of family. **(IBPS Clerk Main 2016)**
(a) 35.2 (b) 35.2 (c) 36.2 (d) 37.2
(e) None of these

72. In a school the number of boys and girls are in the ratio of 4:7. If the number of boys are increased by 25% and the number of girls are increased by 15%. What will be the new ratio of number of boys to that of girls? **(IBPS PO/MT Pre 2016)**
(a) 100:131 (b) 100:151 (c) 100:161 (d) 100:181
(e) None of these

73. A man spends 28% of his salary on food. From the remaining he spent 1/6 th on rent and sends 3/8 th to his mother. If he left with ₹ 5280, what amount he sends to his mother. **(SBI PO Prelim Exam 2017)**
(a) ₹8230 (b) ₹8640 (c) ₹9580 (d) ₹8420
(e) None of these

74. Ramesh has 20% savings with him from his monthly salary. If expenditure on clothing is 25% of overall expenditure and his total expenditure except clothing is 7200 then find his saving. **(IBPS PO Prelim Exam 2017)**
(a) 2000 (b) 2500 (c) 2600 (d) 2400
(e) 2900

75. Raman adds 12% of his salary in PPF. 3/8th of the remaining amount is spent on clothes and the difference between PPF and clothes expenses is ₹ 21000. Remaining amount is spent on house rent and other expenses. If house rent expenses is ₹ 3000 less than other expenses, then what is the house rent expenses? **(IBPS RRB Scale-I Main Exam 2017)**
(a) ₹32000 (b) ₹30000 (c) ₹26000 (d) ₹28000
(e) None of these

76. Rakesh adds 12% of his salary in PPF. 3/8 of the remaining salary is spent in clothes. Difference between PPF and clothes expenses is Rs 10500. Remaining in house rent and others. If house rent expenses is ₹ 1500 less than expenses in others, then what is the house rent expense? **(IBPS SO IT Officer Pre. 2018)**
(a) 17000 (b) 10000 (c) 9000 (d) 13000
(e) None of these

77. Rohan bought a bike at 15% discount on MRP. After 1 year Rohan sold the bike to Gopal at 10% loss. After 1 more year Gopal sold the bike at 15% profit to Sumit. If Sumit paid ₹ 1,40,000 then find the M.R.P. of the bike ? **(IBPS PO Pre-2018)**
(a) 1,59,000 (b) 1,55,000 (c) 1,40,000 (d) 2,00,000
(e) 1,80,000

78. An article was sold at a discount of 30% at ₹ 1120. If the article was sold at discount of ₹ 399 in place of 30% discount then find the selling price. **(IBPS RRB Clerk Pre-2018)**
(a) ₹1066 (b) ₹1201 (c) ₹1086 (d) ₹1223
(e) ₹1164

79. A man invested 20% of his monthly income in LIC and remaining gave to his mother. Mother spend 15 % of it in household expenses and she was left with Rs 27,200 then find the salary of man? **(IBPS Clerk Pre -2018)**
(a) ₹37,500 (b) ₹36,000 (c) ₹38,000 (d) ₹42,000
(e) ₹40,000

80. Satish saves 10% of his monthly salary. And of the remaining salary $\frac{1}{3}$th and $\frac{1}{2}$th he gives to his mother and sister respectively and the remaining salary he submits as his EMI for the payment of his car. If his annual EMI was Rs. 50,000, then find his monthly salary? **(RRB PO Pre-2018)**
(a) ₹33,000 (b) ₹27,000 (c) ₹32,000 (d) ₹30,000
(e) ₹27,800

81. The ratio between two numbers is 3 : 5. If the smaller number is increased by 20% and the bigger one is decreased by 25%, the new ratio of numbers (smaller: bigger) will be – **(SBI Clerk Main-2018)**
(a) 25 : 24 (b) 24 : 25 (c) 23 : 24 (d) 24 : 23
(e) 11 : 13

82. Raman gave 80% of his monthly salary to his wife and the remaining he invested in mutual fund. From the money his wife got, she spent 30% on groceries, 20% on rent and remaining amount of ₹ 12000 she spent on buying gold. What is Raman's monthly salary? **(IBPS PO Prelim-2019)**
(a) 34400 (b) 30000 (c) 41500 (d) 32000
(e) None of these

83. In a class percentage of students who passed the exam is 50% and number of boys & girls who passed the exam is same. If boys who failed the exam are 150% more than girls who failed in exam then find the percentage of girls who failed out of total students **(IBPS Clerk Prelim-2019)**
(a) 15% (b) 14% (c) 14.28% (d) 15.28%
(e) None of these

84. Sanjeet spends 21% of an amount of money on an insurance policy, 35% on food, 17% on children's education and 16% on recreation. He deposits the remaining amount of ₹495 in bank. How much amount does he spend on food and insurance policy together ? **(IBPS Clerk Main-2019)**
(a) ₹3136 (b) ₹2800 (c) ₹2600 (d) ₹2570
(e) ₹2520

85. Sumit spends 50% of his monthly income on household items and out of the remaining he spends 50% on transport, 25% on entertainment, 10% on sports and remaining amount of ₹1500 is saved. What is Sumit's monthly income ? **(IBPS Clerk Main-2019)**
(a) ₹18000 (b) ₹20000 (c) ₹22000 (d) ₹24000
(e) None of these

86. In year 2015, ratio of boys to girls in a school is 72 : 38. And in year 2018, number of boys is increased by 1440 and number of girls is increased by 15%. If in 2018, there were total increase in the number of students is 1725, then find the increased number of boys in the school. **(IBPS RRB Clerk Prelim-2019)**
(a) 7240 (b) 5440 (c) 6040 (d) 4440
(e) 5040

87. If ratio of salary of Rahul to that of Vijay is 1 : 3 and each spends 15% of his salary on house rent. Find the house rent paid by Rahul if remaining amount with Rahul and Vijay together is ₹ 42500. **(IBPS RRB Clerk Prelim-2019)**
(a) ₹1800 (b) ₹1845 (c) ₹1785 (d) ₹1750
(e) ₹1875

Answers & Explanations

1. (c) Required ratio
$= 28 : (100 - 28)$
$= 28 : 72 = 7 : 18$

2. (a) Let the original fraction be $\frac{x}{y}$.

$\therefore \frac{x \times 300}{y \times 250} = \frac{9}{10}$

$\Rightarrow \frac{x \times 6}{y \times 5} = \frac{9}{10}$

$\Rightarrow \frac{x}{y} = \frac{9}{10} \times \frac{5}{6} = \frac{3}{4}$

3. (a) Let the original fraction be $= \frac{x}{y}$.

$\therefore \quad \frac{x \times 200}{y \times 300} = \frac{4}{21}$

$\Rightarrow \quad \frac{x}{y} = \frac{4}{21} \times \frac{3}{2} = \frac{2}{7}$

4. (b) Required ratio $= 48 : 52 = 12 : 13$

5. (a) Let the number be x.
Now, according to the question,
$(55 - 14)\%$ of $x = 8610$

$\Rightarrow \frac{x \times 41}{100} = 8610$

$\Rightarrow x = \frac{8610 \times 100}{41} = 21000$

$\therefore 85\%$ of $21000 = \frac{21000 \times 85}{100} = 17850$

6. (a) Total marks obtained by Animesh
$= 102 + 118 + 104 + 114 + 96 = 534$
Total maximum marks $= 120 \times 5 = 600$

$\therefore$ Required percentage $\frac{534}{600} \times 100 = 89$

7. (c) Let maximum aggregate marks be x.
Student get 520 marks and is declared failed by 5% marks it means student get 50% marks
50% of $x = 520$

$\therefore \frac{x}{2} = 520$

$\Rightarrow x = 1040$

8. (a) Let the number be x.
Then, according to the question,

$\frac{5x}{100} \times \frac{2x}{100} = 211.6$

or $x^2 = \frac{211.6 \times 100 \times 100}{5 \times 2} = 211600$

$\therefore x = 460$
$\therefore$ half of eight number $= 230$

9. (a) Required percentage $= \frac{663 - 612}{1020} \times 100 = 5\%$

10. (c) Total marks $= 101 + 100 + 96 + 108 + 78 = 483$
Since it is 84% of the total maximum marks,
Let total maximum marks be x

$\frac{84}{100} x = 483 \Rightarrow x = \frac{483 \times 100}{84} = 575$

$\therefore$ Maximum marks of each subject $= \frac{575}{5} = 115$

11. (a) Let the positive number be x

Then, $\frac{5x}{100} \times \frac{3x}{100} = 504.6$

$\therefore \frac{15x^2}{10000} = 504.6$

or, $x^2 = \frac{504.6 \times 10000}{15}$

$\therefore x = 580$ $\quad\quad$ $\therefore$ Half of number $= 290$

12. (a) Mina failed by $(676 - 624) = 52$ marks

% marks $= \frac{52}{1040} \times 100 = 5\%$

13. (c) Let the number be x.
$\therefore \quad (15\% + 20\%)$ of $x = 126$

$\therefore \quad x = \frac{126 \times 100}{35} = 360$

$\therefore \quad$ required answer $= 360 \times \frac{1}{3} = 120$

Alternate Solution:
According to question
$15\% + 20\% = 126$
$\Rightarrow 35\% = 126$
$\therefore$ 33.33% will be slightly less than 126,
$\therefore$ by options elimination, we get 120.

14. (a) Total marks scored by Nandita $= 525 \times \frac{80}{100} = 420$
Let Score in Science be x
$89 + 92 + 98 + 81 + x = 420$
$360 + x = 420 \Rightarrow x = 60$

15. (c) Let cost Price of article be x

$x - \frac{55}{100} x = 9549 \Rightarrow \frac{45x}{100} = 9549$

$x = \frac{9549 \times 100}{45} = ₹21{,}220$

16. (a) 5% of maximum aggregate marks $= 780 - 728 = 52$
Let maximum aggregate marks be x
5% of $x = 52$

Maximum aggregate marks $= \frac{52}{5} \times 100 = 1040$

17. (c) Let the positive no. be x.
According to question. 15% of x + 10% of $x = 70$

$\Rightarrow \quad x \times \frac{15}{100} + \frac{x \times 10}{100} = 70$

$\Rightarrow \quad \frac{15x}{100} + \frac{10x}{100} = 70$

$\Rightarrow \quad \frac{25x}{100} = 70$

$\therefore \quad x = \frac{70 \times 100}{25} = 280$

$\therefore$ Double of given no. $= 280 \times 2 = 560$

Alternate Solution:

According to question

25% = 70

$\therefore$ 100% = 280

$\therefore$ 200% = 560

18. (a) Minimum marks to pass = 975

Priya failed by 975 – 870 = 105 marks

$\therefore$ Maximum mark $= \frac{105}{7} \times 100 = 1500$

19. (a) $n(A \cup B \cup C) = n(A) + n(B) + n(C) - n(A \cap B) - n(A \cap C) - n(B \cap C) + n(A \cap B \cap C)$

$\Rightarrow 100 - 18 = 42 + 68 + 51 - 30 - 28 - 36 + x$

$\Rightarrow x = 15$

20. (d) $\frac{5x}{100} + 600 = 1000 + \frac{5}{2} \times \frac{(x - 4000)}{100}$

$\Rightarrow x = 12000$

21. (b) Let the original numbers be x and y and their product be xy.

Product of $\frac{1}{3}$rd of x and 150% of $y = \frac{x}{3} \times \frac{3}{2} y = \frac{xy}{2}$

Required answer $= \frac{xy}{2 \times xy} \times 100 = 50\%$

22. (d) Salary in June 2011 = 22385

Salary in June 2009 $= \frac{22385}{1.1 \times 1.1} =$ ₹18500

23. (d) Required number $= 4800 \times \frac{45}{100} \times \frac{40}{100} = 864$

24. (b) Ravina's monthly income

$= 32000 \times \frac{100 + 15}{100} = 32000 \times \frac{115}{100} =$ ₹ 36800

= Ramola's annual income $= 36800 \times 3 \times 12$

= ₹ 1324800

25. (d) Marks scored by Ritu $= 875 \times \frac{56}{100} = 490$

Marks scored by Smita $= 875 \times \frac{92}{100} = 805$

$\therefore$ Average marks scored by all the three together

$= \frac{490 + 805 + 634}{3} = \frac{1929}{3} = 643$

26. (d) Let the original fraction be $\frac{x}{y}$.

According to the question

$\therefore \quad \frac{x \times 400}{y \times 300} = \frac{4}{15}$

$\Rightarrow \quad \frac{x}{y} = \frac{4}{15} \times \frac{3}{4} = \frac{1}{5}$

27. (b) Let the number be x.

Now (55 + 40)% of x = 180.5

$\Rightarrow \frac{x \times 95}{100} = 180.5 \Rightarrow x = \frac{108.5 \times 100}{95} = 190$

Now 80% of 190 $= \frac{190 \times 80}{100} = 152$

28. (c) Number of promoted employees $= \frac{950 \times 28}{100} = 266$

29. (e) Let maximum marks = x

Student got 55% of x = 847

$\therefore \quad x = \frac{847 \times 100}{55} = 1540$

30. (a) No. of boys, last year = 610

20% of 610 = 122

No. of boys, current year = 610 – 122 = 488

No. of girls = 175% of 488

$= \frac{175 \times 488}{100} = 854$ girls

31. (e) Let initial marks of student = x

After Re-evaluation marks reduced by 40% of x

New score = 60% of x = 96

$= \frac{60}{100} \times x = 96$

$x = \frac{96 \times 100}{60}$

$x = 160$

Marks lose = 160 – 96 = 64.

32. (e) No. of candidates selected for job = 20% of 855

$= \frac{20 \times 855}{100} = 171$

33. (c) 32% of 750 $= \frac{32 \times 750}{100} = 240$

(i) 23% of 600 $= \frac{23 \times 600}{100} = 138$

(ii) 46% of 207 $= \frac{46 \times 207}{100} = 95.22$

(iii) 98% of 250 $= \frac{98 \times 250}{100} = 245$

$240 < 245$

34. (d) Total maximum marks of 5 subjects = 60 × 5 = 300

Total marks of Mathew = 42 + 51 + 58 + 35 + 48 = 234

% of marks $= \frac{234}{300} \times 100 = 78\%$.

35. (e) Let the numbers are x, x + 1, x + 2

Sum of three consecutive numbers = 2262

$x + x + 1 + x + 2 = 2262$

$3x + 3 = 2262$

$3x = 2259$

$x = 753$

Number are 753, 754, 755

$\therefore$ 41% of 755 = 309.55

36. (e) $\frac{\text{A's salary}}{\text{B's salary}} = \frac{8}{7}$

A's salary $= \frac{8x}{15}$

B's salary $= \frac{7x}{15}$

Now, A's salary $= \frac{8x}{15} + \frac{8x}{15} \times \frac{21}{100} = \frac{8x + 1.68x}{15} = \frac{9.68x}{15}$

Now B's salary $= \frac{7x}{15} + \frac{7x}{15} \times \frac{20}{100} = \frac{7x + 1.4x}{15} = \frac{8.4x}{15}$

$$\frac{\frac{9.68x}{15}}{\frac{8.4x}{15}} = \frac{96}{77}$$

$$\frac{9.68}{8.4} = \frac{96}{77}$$

Here x is cancelled. So, salary of A can't calculated.

37. (a) Profit on all the goods = 18% of 6000 = ₹ 1080
Profit on half of the goods = 12% of 3000 = ₹ 360
∴ Profit on remaining half of the objects
= 1080 – 360 = ₹ 720

Hence, required profit percentage $= \frac{720}{3000} \times 100\%$
$= 24\%$

38. (c) Let Prerna's salary be ₹ x
According to the question,
80% of 15% of x = 1896

$\Rightarrow \quad x \times \frac{15}{100} \times \frac{4}{5} = 1896$

$\therefore \quad x = \frac{1896 \times 5 \times 100}{15 \times 4} = ₹15800$

39. (d) Let the original fraction is $\frac{a}{b}$
Numerator is increased by 600%,

$a \to a + \frac{600}{100} \times a = 7a$

Denominator is increased by 200%,

$b \to b + \frac{200}{100} \times b = 3b$

According to the question $\frac{7a}{3b} = \frac{14}{5}$

$\frac{a}{b} = \frac{14 \times 3}{5 \times 7} = \frac{42}{35}$ or $\frac{a}{b} = \frac{6}{5}$

40. (e) Let fraction be $\frac{x}{y}$.

∴ According to the question, $\frac{x \times 120\%}{y \times 125\%} = \frac{3}{5}$

$\Rightarrow \quad \frac{x}{y} = \frac{3}{5} \times \frac{125}{120} = \frac{5}{8}$

41. (b) Rohan's marks = 75
Sonia's marks = 65
Rohit's marks = 65 + 45 = 110
Raman's marks = 110 – 25 = 85
Ravi got marks = 85 + 34 = 119
Total maximum marks = 119 + 50 + 169

Percentage of Ravi's mark $= \frac{119}{169} \times 100\% = 70.4\% = 70\%$

42. (b) Let total monthly income of Mr. Giridhar be ₹ x.
According to question,

$\therefore \quad x \times \frac{50}{100} \times \frac{15}{100} = 900$

x = ₹ 12000
Hence, monthly income of Mr. Giridhar = ₹ 12000.

43. (b) Let the total number of original inhabitants be x. Then,
(100 – 25)% of (100 – 10)% of x = 4050

$\Rightarrow \left(\frac{75}{100} \times \frac{90}{100} \times x\right) = 4050 \Rightarrow \frac{27}{40} x = 4050$

$\Rightarrow x = \left(\frac{4050 \times 40}{27}\right) = 6000.$

∴ Number of original inhabitants = 6000.

44. (a) During both the transaction there are profits. So our calculating figures would be 120, 125 and 100. A's cost is certainly less than C's selling price.

∴ Required price $= 225 \times \frac{100}{120} \times \frac{100}{125} = ₹150$

45. (c) Let A = 2k, B = 3k and C = 5k.

A's new salary $= \frac{115}{100}$ of $2k = \left(\frac{115}{100} \times 2k\right) = \frac{23}{10}k$

B's new salary $= \frac{110}{100}$ of $3k = \left(\frac{110}{100} \times 3k\right) = \frac{33}{10}k$

C's new salary $= \frac{120}{100}$ of $5k = \left(\frac{120}{100} \times 5k\right) = 6k$

∴ New ratio $= \frac{23k}{10} : \frac{33k}{10} : 6k = 23 : 33 : 60.$

46. (a) $N = R + 30\%$ of $R = 1.3\,R$
$R = V - 20\%$ of $V = 80\%$ of $V = 0.8\,V$
∴ $N = 1.3 \times 0.8V = 1.04\,V$
Now, $N - V = 1.04\,V - V = 0.04\,V = ₹800$ (given)
∴ $V = ₹20000$
∴ $R = 0.8 \times 20000 = ₹16000$

47. (a) Saving percentage = (100 – 55) % = 45%
If the income of Ajay be ₹ x, then,

$\frac{45 \times x}{100} = 27000 \Rightarrow x = \frac{27000 \times 100}{45} = ₹60000$

48. (a) % change in rate $= \frac{27 - 24}{24} \times 100 = \frac{100}{8}\%$
For fixed expenditure, % change in consumption

$= \frac{\text{\% change in rate}}{100 + \text{\% change in rate}} \times 100$

$= \frac{100/8}{100\left[1 + \frac{1}{8}\right]} \times 100 = \frac{100}{9}\% = 11\frac{1}{9}\%$

49. (a) First number = x
Second number = y

$\therefore \quad x \times \frac{50}{100} = y \times \frac{3}{4}$

$\Rightarrow \quad \frac{x}{2} = y \times \frac{3}{4} \quad \Rightarrow \frac{x}{y} = \frac{3}{4} \times 2 = \frac{3}{2}$

Alternate solution:

$.5x = .75y \quad \Rightarrow \frac{x}{y} = \frac{3}{2}$

50. (b) Second number $= \frac{1}{4} \times 2960 = 740$
Let the first number be x.

$\frac{5}{9}x = \frac{25}{100} \times 740$; $\quad x = \frac{9}{5} \times \frac{1}{4} \times 740 = 333$

30% of 1st number $= \frac{30}{100} \times 333 = 99.9$

51. (a) In 1 litre quantity of unlead petrol = 100 ml
Let x ml leaded petrol be added, then
5% of (1000 + x) = 100 ml
or, 5(1000 + x) = 100 × 100
$\Rightarrow \quad x = \frac{5000}{5} = 1000$ ml

52. (b) 5% of 2000 = 100
2000 – 100 = 1900
If he sells 1900 he will get 25% profit cost per piece ₹ 25
⇒ 25 × 1900 × 100/125 = 38000
= CP if 50% rejected, only 1000 pieces sold so 1000 × 25 = 25000 = SP
Loss = CP – SP = 38000 – 25000 = 13000

53. (c) Let man has originally ₹ x
After 20% loss = $\frac{x \times 80}{100} = \frac{8x}{10}$
After spending 25% = $\frac{8x}{10} \times \frac{75}{100} = \frac{8x}{10} \times \frac{3}{4}$
According to the question,
$\frac{8x}{10} \times \frac{3}{4} = 480 \Rightarrow \quad 8x \times 3 = 480 \times 4 \times 10$
$\therefore \quad x = \frac{480 \times 4 \times 10}{8 \times 3} = 800$

54. (b) Let total number of candidates = 100
$\therefore$ Total marks of 40 candidates = 40 × 74
Total marks of 60 candidates = 60 × 77
$\therefore$ Required average marks = $\frac{40 \times 74 + 60 \times 77}{100}$
$= \frac{2960 + 4620}{100} = \frac{7580}{100} = 75.80$

55. (a) Let income be ₹ 100
Expenditure amount = $100 \times \frac{90}{100}$ = ₹ 90
Now, income increased by 20% = $100 \times \frac{120}{100}$ = ₹ 120
Expenditure amount = (120 – 10) = ₹ 110
Increase in expenditure = 110 – 90 = ₹ 20
Increase in % of expenditure = $\frac{20}{90} \times 100$
$= \frac{200}{9} = 22\frac{2}{9}\%$

56. (d) Let total income of Ram be x.
Then
(100 – 50 – 20 – 5)% of x = 11250
x = 45000.

57. (d) Let the original fraction is $\frac{a}{b}$.
According to question,
$$\frac{a + \frac{350}{100} \times a}{b + \frac{300}{100} \times b} = \frac{9}{22}$$
$$\Rightarrow \quad \frac{4.5a}{4b} = \frac{9}{22}$$
$$\Rightarrow \quad \frac{a}{b} = \frac{9}{22} \times \frac{4}{4.5} = \frac{4}{11}$$

58. (d) Let her monthly salary be ₹ x.
According to the question,
$$\frac{7}{100} \times x = 2170$$
$$\Rightarrow \quad x = \frac{2170 \times 100}{7} = ₹31000$$
Total monthly investment = (18 + 6 + 7)% of 31000
$= \frac{31}{100} \times 31000 = 9610$
Total annual investment = 12 × 9610 = ₹ 115320

59. (b) If total maximum marks be x, then,
$\frac{x \times 64}{100} = 2240 - 128 = 2112$
$\Rightarrow \quad x = \frac{2112 \times 100}{64} = 3300$
Marks obtained by Meena = 2240 – 907 = 1333
Required percentage = $\frac{1333}{3300} \times 100 \approx 40$

60. (a) Percentage increase in the consumption
$= \frac{10}{100 - 10} \times 100 = \frac{100}{9} = 11\frac{1}{9}\%$

61. (e) Let the original fraction be $\frac{x}{y}$.
According to the question,
$\frac{x \times 400}{y \times 600} = \frac{5}{12}$
$\Rightarrow \frac{x}{y} = \frac{5}{12} \times \frac{6}{4} = \frac{5}{8}$

62. (c) Let Ms. Pooja Pushpan's monthly salary = ₹ . x
According to the question,
13% of the x = ₹ 8554
$\Rightarrow x = ₹\left(\frac{8554 \times 100}{13}\right)$
= ₹ 65800
Total monthly investment in percentage
= 13 + 23 + 8 = 44
$\therefore$ Total monthly investment
= 44% of ₹65800
$= ₹\left(\frac{44 \times 65800}{100}\right)$
= ₹ 28952
$\therefore$ Total annual investment
= ₹(12 × 28952) = ₹ 347424

63. (c) Number of sweets received by each student
= 15% of 240
$= \frac{15 \times 240}{100} = 36$
$\therefore$ Total number of sweets
= 240 × 36 = 8640

64. (c) Sen's monthly income = $₹\left(\frac{775200}{12}\right) = 64600$
Let the monthly income of Anita be ₹ x.
$\therefore$ Bina's monthly income = $₹\left(\frac{90 \times x}{100}\right) = 0.9x$
Now, according to the question,

$x + 0.9x = 64600$

$\Rightarrow x + ₹\left(\frac{64600}{1.9}\right) = 34000$

$\therefore$ Bina's monthly income $= 34000 \times 0.9 = ₹30600$

65. (a) Required Value $= 480 \times \frac{60}{100} \times \frac{3}{4} = 216$

66. (e) Maximum marks $= \frac{100 \times 208}{40} = ₹520$

67. (c) Let the money of C be x.
According to the question,

Total money of B $= x + x + 50\% = x + \frac{50x}{100} = \frac{3x}{2}$

Total money of A $= 2 \times \frac{3x}{2} = 3x$

Average money of three persons = 12000

$\therefore$ Total money to thee 12000×3

$\therefore \quad 3x + \frac{3x}{2} + x = 12000 \times 3$

$\frac{6x + 3x + 2x}{2} = 36000$

$3x = \frac{3 \times 7200}{11}$

$\therefore \quad x = \frac{36000 \times 2}{11} = \frac{72000}{11}$

Now, money of A $= 3x = 3 \times \frac{72000}{11} = \frac{216000}{11}$

68. (c) Total number of students = 480
Perecentage of total students passed

$= 75\%$ of total students $= \frac{75 \times 480}{100} = 360$ students

Now, using the condition from the question,
Let the number of boys be x.
Then, 70% of x + 85% of $(480 - x) = 360$

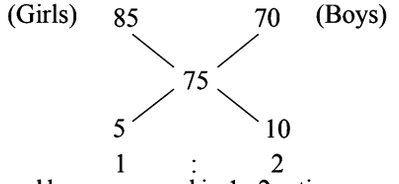
$\Rightarrow \quad \frac{75 \times x}{100} + \frac{85 \times (480 - x)}{100} = 360$

$\Rightarrow \quad 70x - 85x + 40800 = 36000$

$\Rightarrow \quad 40800 - 36000 = 85x - 70x$

$\Rightarrow \quad 48000 = 15x \Rightarrow x = \frac{4800}{15} = 320$

$\therefore$ There are 320 boys who appeared for the examination.
By alligation Method—



$\therefore$ Girls and boys appeared in 1 : 2 ratio

$\therefore \quad$ Boys $= \frac{480}{3} \times 2 = 320$

69. (d) Let the weight of fresh grapes be x.

Quantity of water in it $= \frac{80}{100} \times x = \frac{4x}{5}$

Quantity of pulp in it $= \left(x - \frac{4x}{5}\right) = \frac{x}{5}$

Quantity of water in 500 kg dry

grapes $= \frac{10}{100} \times 500 = 50$ kg

$\therefore \quad$ Quantity of pulp in it $= (500 - 50) = 450$ kg

$\frac{x}{5} = 450$

$\therefore \quad x = 2250$ kg

70. (b) Boys in class $4 = \frac{60}{100} \times 6x = \frac{360x}{100}$

Boys in class $5 = \frac{52}{100} \times 11x = \frac{572x}{100}$

So total boys $= \frac{360x}{100} + \frac{572x}{100} = \frac{932x}{100} = 9.32x$

% of boys $= \frac{9.32x}{17x} \times 100 = 54.8\%$

71. (b) Suppose initialy price per kg of rice is 100 then their expenditure is 4000.
Now their expenditure is only increased by only 10% i.e. 4400.
Increased price of rice = 125.

So new consumption $= \frac{4400}{125} = 35.2$

Alternate solution:

	Price	Consumption	Expenditure
Old	4	40	160
New	5	?	160+16=176

$\therefore$ New consumption $= \frac{176}{5} = 35.2$

72. (c) Boys = 4x and girls = 7x

Ratio $= \left(4x \times \frac{125}{100}\right) : \left(7x \times \frac{115}{100}\right) = 100:161$

73. (e) Let man earns 100 units
$\therefore$ 28 units = food for Remaining units = 72,
12 units for rent
27 units sent to mother
$\therefore$ Again Remaining units = 72 – 12 – 27 = 33 units
Now, 33 units = ₹ 5280
$\therefore$ 27 units = ₹ 4320

74. (d) According to question,
Total expenditure = 80% of salary
Expenditure excluding clothing

$= 80\% - \frac{25}{100} \times 80\% = 60\%$

Ramesh savings $= \frac{7200}{60} \times 20 = 2400$

75. (c) According to question,
12% of the salary is add in PPF.
Remaining part = (100 – 12) = 88%

Amount spent on clothes $= \frac{3}{8} \times 88 = 33\%$

Difference between PPF and cloth expenses
= (33 – 12) = 21%

$\because$ 21% of salary = 21,000

$\therefore$ Total salary = 100000

Other expenses = House rent expenses + 3000.

House rent expenses + other expenses

= (100 – 33 – 12)% = 55%

$\therefore$ 55% of salary = 55000

House rent expenses + House expenses + 3000

= 55000

2 × House rent expenses = 55,000 – 3000 = 52,000

$\therefore$ House rent expenses = $\frac{52,000}{2} = 26,000$

76. (d) Let Rakesh's salary be '100x'

Salary spent in PPF = 12x

Remaining Salary = 88x

So, Salary spent on clothes = 3/8 of 88x = 33x

As per the question,

33x – 12x = 10500

21x = 10500

i.e. x = 500

So, Rakesh's Salary = ₹50000

Amount spent on Remaining expenses

= 50000 – ((12 × 500) + (33 × 500))

= 50000 – (6000 + 16500) = 50000 – 22500 = 27500.

Now, let House rent be 'a'

Other expenses = a + 1500

ATQ

a + (a + 1500) = 27500

2a = 26000

a = ₹ 13000

77. (a) For Rohan's cost price = M. R. P. × $\frac{85}{100}$

For Gopal, C.P. = M.R.P. × $\frac{85}{100} \times \frac{90}{100}$

Sumit C.P.

= M.R.P. × $\frac{85}{100} \times \frac{90}{100} \times \frac{115}{100} = 1,40,000$

$\Rightarrow$ M.R.P. = ₹159000 (approx)

78. (b) MP of article = $\frac{1120}{70} \times 100 = ₹ 1600$

Selling price = 1600 – 399 = ₹ 1201

79. (e) Let the salary of man be ₹ x

Amount given to mother = 0.80x

ATQ

0.80 x × .85 = 27,200

x = ₹ 40,000

80. (e) Let the monthly salary be Rs. 100 x.

EMI per month = $100x - (10x + 90x \times \frac{1}{3} + 90x \times \frac{1}{2}) = 15x$

ATQ,

15x × 12 = 50,000 $\Rightarrow$ x ≈ 278

Monthly salary = ₹ 27800

81. (b) Let numbers be $3x$ & $5x$

ATQ,

$$\frac{3x \times \frac{120}{100}}{5x \times \frac{75}{100}} = \frac{24}{25}$$

82. (b) Let the monthly salary of Raman be x.

The amount gave to his wife

$= \left(\frac{80}{100}\right) \times x = \frac{4x}{5}$

The amount invested in Mutual fund

$= \left(\frac{20}{100}\right) \times x = \frac{x}{5}$

Given,

$\left(\frac{4x}{5}\right) \times \left(\frac{50}{100}\right) = 12000$

$x = 30000$

The monthly salary of Raman = ₹ 30000

83. (c) Let total students be 100x

Then passed students be 50x

Passed boys & girls are 25x each

Let failed girls = y $\therefore$ Failed boys = 2.5y

Now, y + 2.5y = 50x

3.5y = 50x

y = 14.28 x

Required percentage = 14.28%

84. (e) Let total amount be ₹ x.

Total expenditure = (21 + 35 + 17 + 16)% of x

= 89x %

Remaining money = (100 – 89)% of x = 11% of x

According to the question,

11% of x = 495

$\therefore$ x = $\frac{495}{11} \times 100 = ₹ 4500$

Now, total money (food + insurance) spent

= (21 + 35)% = 56% of x

56% of 4500

$\frac{56}{100} \times 4500 = ₹ 2520$

85. (b) Total % spend = (50 + 25 + 12.5 + 5) = 92.5%

$\therefore$ Saving = 7.5% = 1500

1% = $\frac{1500}{7.5} = 200$

100% = 200 × 100 = ₹20000

86. (e) Let the number of students in the exam be $55x$.

Then number of boys = $36x$

Number of girls = $19x$

ATQ,

$55x + 1725 = (36x + 1440) + 19x \times 1.15$

$x = 100$

Increased number of boys = 3600 + 1440 = 5040

87. (e) Let the salary of Rahul and Vijay be ₹ $100x$ and ₹ $300x$ respectively.

ATQ

Remaining Amount

= $85x + 255x = 42500$

$x = 125$

House rent paid by Rahul = $15x = 15 \times 125 = ₹ 1875$