



Your Personal Exams Guide



NDA



CDS



SSC CGL



CBSE UGC NET



IAS



SSC CHSL



CTET



MPSC



AFCAT



CSIR UDC NET



IBPS PO



UP POLICE



SSC MTS



SBI PO



BPSC



UP TET



IBPS RRB



IBPS CLERK



IES



UPSC CAPF



SSC Stenogr..



RRB NTPC



SSC GD



RBI GRADE B



RBI Assistant



DSSSB

WBCS Mains 2019 Official Paper-VI

Total Time: 2 Hour : 30 Minute

Total Marks: 200

Instructions

Sl No.	Section Name	No. of Question	Maximum Marks	Negative Marks	Positive Marks
1	Full Test	200	200	0.33	1

- 1.) A total of 150 minutes is allotted for the examination.
- 2.) The server will set your clock for you. In the top right corner of your screen, a countdown timer will display the remaining time for you to complete the exam. Once the timer reaches zero, the examination will end automatically. The paper need not be submitted when your timer reaches zero.
- 3.) There will, however, be sectional timing for this exam. You will have to complete each section within the specified time limit. Before moving on to the next section, you must complete the current one within the time limits.

Your Personal Exams Guide

Full Test

1. The ratio of bus and train fares from Burdwan to a certain place is 3 : 4. If the train fare increases by 20% and bus fare by 10% then what will be the new ratio of bus and train fares? **(+1, -0.33)**
- a. 12 : 23
- b. 11 : 16
- c. 12 : 15
- d. 16 : 15
-
2. When the price of rice increases $12\frac{1}{2}\%$, a man can get 250 gm less rice for Rs.18. Find the present cost of rice per kg. **(+1, -0.33)**
- a. Rs.8
- b. Rs.7
- c. Rs.9
- d. Rs.7.50
-
3. Of four numbers, the second number is 20% more than the first, the third is 10% less than the second and the fourth number is 50% more than the third. If the fourth number is 405, find all the numbers. **(+1, -0.33)**
- a. 300, 405, 250, 270
- b. 300, 270, 405, 250
- c. 275, 290, 310, 380

d. 250, 300, 270, 405

4. The expense for rice, fish and oil of a family are as 12 : 17 : 3. The prices of these articles are increased by 20%, 30% and 50% respectively. By what percent the expenses for these articles of the family will be increased? (+1, -0.33)

a. $27\frac{1}{8}$

b. $27\frac{1}{7}$

c. $28\frac{1}{8}$

d. $29\frac{1}{8}$

5. In a certain examination, a candidate answered 25 questions and two-fifth of the rest of the total number of questions and he found that thus he has answered only 60% of the total number of questions. How many questions did he answer? (+1, -0.33)

a. 45

b. 40

c. 55

d. 65

6. A man saves 20% of his income. If his expenses be increased by 35%, by what percent his income is to be raised so that he can save 10% of his income? (+1, -0.33)

a. 20%

b. 30%

c. 25%

d. 22%

7. A mixture of milk and water contains $12\frac{1}{2}\%$ of water. How much water should be added to 200 gallons of such mixture so that the new mixture may contain $37\frac{1}{2}\%$ of water? (+1, -0.33)

a. 70 gallons

b. 100 gallons

c. 60 gallons

d. 80 gallons

8. One litre of spirit which contains 10% of water is added to 3 litres of spirit containing 7% of water and to this mixture half a litre water is added. Find the percentage of water in the final mixture. (+1, -0.33)

a. 15%

b. 18%

c. 20%

d. 22%

9. A certain kind of brass is composed of copper, zinc, lead and tin, the ratio of copper to zinc is 1 : 2 of zinc to lead is 3 : 5 and of lead to tin is 7 : 8. Find the quantity of each metal in 213 gm brass. (+1, -0.33)

a. 21 gm, 42 gm, 70 gm, 80 gm

- b. 20 gm, 40 gm, 70 gm, 80 gm
 - c. 20 gm, 40 gm, 70 gm, 90 gm
 - d. 22 gm, 40 gm, 60 gm, 80 gm
-

10. If 25 men can weave 120 metres of cloth in a day, how many metres of cloth will be woven by 35 men in a day? **(+1, -0.33)**

- a. 170 metres
 - b. 168 metres
 - c. 190 metres
 - d. 180 metres
-

11. 12 men can do a piece of work in 30 days. How many extra men should be engaged to do the work in 20 days? **(+1, -0.33)**

- a. 8 men
 - b. 6 men
 - c. 10 men
 - d. 15 men
-

12. A man and a boy can do a piece of work in 36 days, if the man works alone for the last 10 days, it is completed in 40 days. How long would the boy take to do it alone? **(+1, -0.33)**

- a. 85 days

- b. 100 days
 - c. 80 days
 - d. 90 days
-

13. A and B together can do a piece of work in 25 days. If B works alone for the last 10 days, it is completed in 30 days. In how many days A alone can do it? (+1, -0.33)

- a. 50 days
 - b. 60 days
 - c. 40 days
 - d. 55 days
-

14. 1200 boys and 600 girls are examined in a test. 42% of the boys and 30% of the girls passed. Find the percentage of those who failed? (+1, -0.33)

- a. 62%
 - b. 70%
 - c. 53%
 - d. 80%
-

15. If 50 men do a piece of work in 12 days working 8 hours a day. How many hours a day would 60 men have to work in order to do another piece of work twice as great in 16 days? (+1, -0.33)

- a. 10 hours a day

- b. 12 hours a day
 - c. 8 hours a day
 - d. 6 hours, a day
-

16. A contractor undertook to finish a road 12 km long in 350 days. But after employing 45 men for 200 days he found that only 4 km of the road had been built. How many additional men must be engaged to finish the work in the given time? (+1, -0.33)

- a. 70 men
 - b. 80 men
 - c. 75 men
 - d. 85 men
-

17. A laboratory has to pay Rs.67.50 for 30 days as gas bill. If it uses 35 gas burners for 6 hours a day. Find the amount to be paid if it uses 30 gas burners for 18 days working 7 hours a day. (+1, -0.33)

- a. RS.40.50
 - b. RS.42.50
 - c. RS.44.50
 - d. RS.50.50
-

18. The cost of printing a magazine of 540 pages with 30 lines on each page and 15 words in each line is Rs,7200. Find the cost of printing a magazine of 450 pages with 35 lines on each page and 18 words in each line (+1, -0.33)

- a. Rs.9000
- b. Rs.9400
- c. Rs.8200
- d. Rs.8400

19. If a, b, c and x be the 1st, 2nd, 3rd and the 4th proportions respectively, then the value of x will be one of the following: (+1, -0.33)

- a. $\frac{ab}{c}$
- b. $\frac{ac}{b}$
- c. $\frac{bc}{a}$
- d. $\frac{a}{bc}$

20. The number $\sqrt{7}$ (+1, -0.33)

- a. lies between 1 and 2
- b. lies between 2 and 3
- c. lies between 3 and 4
- d. lies between 6 and 7

21. $\sqrt{300} - \sqrt{45} + \sqrt{125} - \sqrt{108} - \sqrt{20} - \sqrt{48} = ?$ (+1, -0.33)

- a. 5
- b. 0

c. 7

d. 3

22. If the ratio of cost price and selling price is 25 : 26, then what is the percentage of profit? (+1, -0.33)

a. 4%

b. 6%

c. 8%

d. 5%

23. There is some loss if an article is sold at Rs.120. There is same amount of profit if the article is sold of Rs.140. What is the cost price of the article? (+1, -0.33)

a. Rs.120

b. Rs.150

c. Rs.130

d. Rs.160

24. A man sold a stove for Rs.423 and incurred a loss of 6%. At what price should it be sold so as to earn a profit of 8%? (+1, -0.33)

a. Rs.480

b. Rs.490

c. Rs.460

d. Rs.486

25. A man sold an article at a gain of 5%. Had he sold it for Rs.240 more, he would have gained 8%. Find the cost price of the article. (+1, -0.33)

a. Rs.7000

b. Rs.9000

c. Rs.8000

d. Rs.10,000

26. The ratio of manufacturing cost of two sharies is 2 : 5. If the first shari is sold at 15% profit and the second shari is sold at 18% profit then the manufacturer makes a total profit of Rs.396. Find the cost of manufacture of first shari. (+1, -0.33)

a. Rs500

b. Rs590

c. Rs690

d. Rs660

27. A book seller allowing 12% discount on the marked price of a book made a profit of 10%. What will be his percentage of profit if he sells the book at the marked price? (+1, -0.33)

a. 25%

b. 30%

c. 20%

d. 22%

28. A trader sold a bicycle at a profit of 10%. Had he bought the bicycle at 10% less price and sold it at a price Rs.12 more, he would have gained 25%. What is the cost price of the bicycle? (+1, -0.33)

a. Rs.500

b. Rs.480

c. Rs.460

d. Rs.450

29. A businessman blends Assam tea costing Rs.70 per kg with Darjeeling tea costing Rs.110 per kg in the ratio 3 : 1. What should be the selling price per kg of the new mixture to have a profit of $12\frac{1}{2}\%$ for him? (+1, -0.33)

a. Rs.100 per kg

b. Rs.90 per kg

c. Rs.110 per kg

d. Rs.80 per kg

30. There is a loss of 11% if an article is sold at Rs.178. At what price should it be sold to make a profit of 11%? (+1, -0.33)

a. Rs.200

b. Rs.220

c. Rs.222

d. Rs.226

31. A retailer getting a discount of 20% on the marked price sells an article at the marked price. Percentage of profit of the retailer is **(+1, -0.33)**

a. 10

b. 20

c. 25

d. 30

32. A fruit seller purchased banana at Rs.30 per dozen and sold each pair at Rs.7. What is the percentage profit or loss at this? **(+1, -0.33)**

a. 20% profit

b. 20% loss

c. 40% profit

d. 40% loss

33. Selling a radio at Rs.363.75 there was a loss of 3% of a radio seller. At what price should he sell the radio to make a profit of 10%? **(+1, -0.33)**

a. Rs.400.50

b. Rs.410.50

c. Rs.412.50

d. Rs.420.50

34. A businessman purchased 35 kg of pulse at Rs.525 and sold each kg at the rate Rs.18. What is his percent of profit or loss at this? **(+1, -0.33)**

- a. 20% loss
 - b. 20% profit
 - c. 25% profit
 - d. 25% loss
-

35. A hawker purchases some mangoes at the rate of 9 mangoes for Rs.5 and sells them at Rs.8 per dozen. What will be his profit or loss percentage? **(+1, -0.33)**

- a. 20% loss
 - b. 25% profit
 - c. 25% loss
 - d. 20% profit
-

36. A businessman sold an article at a loss of 15%. Had he sold the article at Rs.100 more he would have gained 10%. At what price did he sell the article? **(+1, -0.33)**

- a. Rs.350
- b. Rs.340
- c. Rs.360
- d. Rs.330

-
37. In what ratio should the Assam tea at Rs.40 per kg and Darjeeling tea at Rs.65 per kg be mixed and sold at Rs.60 per kg to make in overall profit of 25%? (+1, -0.33)
- a. 1 : 2
 - b. 2 : 1
 - c. 3 : 2
 - d. 17 : 8
-
38. A milkman mixed water with 60 litres of pure milk and sold the mixture at the cost price thereby made a profit of 25%. Find the quantity of water in the mixture. (+1, -0.33)
- a. 12 litres
 - b. 15 litres
 - c. 10 litres
 - d. 14 litres
-
39. A Shoe maker sold two pairs of shoes at the same price. In the first pair he makes a profit of 20% and in the other pair he makes a loss of 20%. What is his percentage of profit or loss in the whole business? (+1, -0.33)
- a. 3% Loss
 - b. 8% Profit
 - c. 5% Profit

d. 4% Loss

40. Paban incurred 10% loss by selling lemon at Rs.18 per dozen. At what price should he sell each dozen of lemon to make a profit of 10%? (+1, -0.33)

a. Rs20.

b. Rs.22

c. Rs.24

d. Rs.30

41. There is 25% profit if an article is sold at Rs.150. At what per cent should the selling price be increased so that there will be 30% profit? (+1, -0.33)

a. 2.5

b. 4

c. 5

d. 10

42. A sum of money double itself in 8 years at some rate of interest. In how many years would it triple itself? (+1, -0.33)

a. 16 years

b. 12 years

c. 15 years

d. 14 years

43. A sum of amounts will be doubled in $7\frac{1}{2}$ years. What is the rate per cent? (+1, -0.33)
7127171 years. What is the rate per cent ?

- a. $15\frac{2}{3}$
- b. $16\frac{3}{2}$
- c. $13\frac{1}{3}$
- d. $15\frac{3}{2}$

44. A sum amounts to Rs.1180 in 3 years and to Rs.1300 in 5 years. Find the rate of interest. (+1, -0.33)

- a. 5%
- b. 6%
- c. 4%
- d. 8%

45. A certain sum amounts to Rs.17,200 at 12% simple interest per annum in a period in which Rs.22,080 amounts to Rs.37,536 at 14% simple interest per annum. Find the sum. (+1, -0.33)

- a. Rs.11,250
- b. Rs. 12,750
- c. Rs.12,250
- d. Rs.10,750

46. Ten copies of the book can be bought for a certain sum of money payable at the end of 2 years. 12 copies of the same book can be bought for the same sum in ready cash. What is the rate of interest per annum? (+1, -0.33)

- a. 12%
- b. 15%
- c. 10%
- d. 8%

47. Sita deposited some money in a bank at the rate of simple interest of 5.25% per annum. After 2 years, she has got Rs.840 as interest. Let us write by calculating, the money she has deposited into the bank. (+1, -0.33)

- a. Rs.8,000
- b. Rs.10,000
- c. Rs.10,000
- d. Rs.9,000

48. Let us calculate the number of years for which the interest of Rs.600 at the rate of simple interest of 8% per annum will be Rs.168. (+1, -0.33)

- a. $5\frac{1}{2}$
- b. $4\frac{1}{2}$
- c. $3\frac{1}{2}$
- d. $2\frac{1}{2}$

49. At the same rate of simple interest per annum, if a principal becomes the amount of Rs.7100 in 7 years and of Rs.6200 in 4 years, let us determine the principal amount. (+1, -0.33)

- a. Rs.4000
- b. Rs.7000
- c. Rs.6000
- d. Rs.5000

50. A weaver cooperative society takes a loan of Rs.15,000 for buying a power loom. After 5 years, the society has to repay Rs.22,125 for recovering the loan. Find the rate of simple interest per annum. (+1, -0.33)

- a. $9\frac{1}{2}\%$ p.a.
- b. $8\frac{1}{2}\%$ p.a.
- c. $5\frac{1}{3}\%$ p.a.
- d. $6\frac{1}{2}\%$ p.a.

51. If the total interest becomes Rs.. x for a principal having the rate of simple interest of $x\%$ per annum for x years then, principal will be (+1, -0.33)

- a. Rs.. x
- b. Rs.100 x
- c. Rs.. $\frac{100}{x}$
- d. Rs.. $\frac{100}{x^2}$

52. If a principal becomes twice of its amount in 10 years, the rate of simple interest per annum is (+1, -0.33)

- a. 5%
- b. 10%
- c. 15%
- d. 20%

53. Calculate the principal whose monthly interest is Rs.1 having the rate of simple interest of 5% per annum. (+1, -0.33)

- a. Rs.300
- b. Rs.120
- c. Rs.240
- d. Rs.480

54. Write the number of years in which the amount becomes twice of the principal having the rate of simple interest $6\frac{1}{4}$ % per annum. (+1, -0.33)

- a. 15
- b. 12
- c. 18
- d. 16

55. The ratio of the principal and the amount (principal along with interest) in 1 year is 8 : 9, the rate of simple interest per annum is (+1, -0.33)

- a. $11\frac{1}{2}\%$
- b. $12\frac{1}{2}\%$
- c. $10\frac{1}{2}\%$
- d. $13\frac{1}{2}\%$

56. 10 men can do a piece of work in 18 days. In how many days 12 men can do it? (+1, -0.33)

- a. 12 days
- b. 15 days
- c. 10 days
- d. 16 days

57. Present price of a machine in Rs. $2p$ and if price of the machine decreases by $2r\%$ in each year, the price of machine after $2n$ years will be (+1, -0.33)

- a. $Rs.p \left(1 - \frac{r}{100}\right)^n$
- b. $Rs.2p \left(1 - \frac{r}{50}\right)^n$
- c. $Rs.p \left(1 - \frac{r}{50}\right)^{2n}$
- d. $Rs.2p \left(1 - \frac{r}{50}\right)^{2n}$

58. A person deposited Rs.100 in a bank and got the amount Rs.121 for two years, (+1, -0.33)
the rate of compound interest per annum is

- a. 10%
- b. 20%
- c. 5%
- d. $10\frac{1}{2}\%$

59. Find the rate of compound interest per annum, so that the amount on (+1, -0.33)
Rs.400 for 2 years becomes Rs.441.

- a. 6
- b. 7
- c. 5
- d. 9

60. If a sum of money doubles itself at the fixed rate of compound interest per (+1, -0.33)
annum in n years, find in how many years it will become four times.

- a. $3n$
- b. n^2
- c. $2n$
- d. $3n^2$

61. Determine the principal amount that at the rate of 5% compound interest per annum becomes Rs.615 after two years. (+1, -0.33)

- a. Rs.6000
- b. Rs.8000
- c. Rs.5000
- d. Rs.9000

62. If the rate of increase in population is $r\%$ per year, the population after n years is p : let us find the population that was n years before. (+1, -0.33)

- a. $p \left(1 + \frac{r}{100}\right)^2$
- b. $p \left(1 + \frac{r}{100}\right)^{2n}$
- c. $p \left(1 + \frac{r}{100}\right)^{-n}$
- d. $p \left(1 + \frac{r}{100}\right)^{-2n}$

63. A invested Rs.6000 for 5 months and B Rs.5000 for x months in a business. If the profit of A and B be equal, find the value of x (+1, -0.33)

- a. 10 months
- b. 8 months
- c. 6 months
- d. 7 months

64. Two friends start a business with the capitals Rs.16,000 and Rs.24,000. They make a profit of Rs.3375 in a year. How much each friend will get as a part of the profit? (+1, -0.33)
- a. Rs.1350, Rs.2025
 - b. Rs.1525, Rs.2225
 - c. Rs. 1025, Rs.1850
 - d. Rs.1250, Rs.2225
-
65. Three friends P, Q and R started a business with the capitals Rs.15,000, Rs.10,000 and Rs.25,000. But at the end of the year, they suffer a loss of Rs.2,500. How much each will have to pay for the loss? (+1, -0.33)
- a. Rs.500, Rs.750 and Rs.1000
 - b. Rs.750, Rs.500 and Rs.1250
 - c. Rs.500, Rs.750 and Rs.1150
 - d. Rs.1000, Rs.500 and Rs.700
-
66. At the starting of the year X and Y jointly start a business with Rs.24,000 and Rs.30,000. After 5 months X invests Rs.12,000 more in the business. At the end of the year if the profit in the business is Rs.14,030, find the part of the profit of each of them. (+1, -0.33)
- a. Rs.8130, Rs.5900
 - b. Rs.9130, Rs.4900
 - c. Rs. 7130, Rs.6900

d. Rs. 6130, Rs.7900

67. X and Y Jointly start a business with Rs.1200 and Rs.800. At the end of the year Y gets Rs.120 as profit. As a part of profit X will get (+1, -0.33)

a. Rs.200

b. Rs.180

c. Rs.175

d. Rs.150

68. X, Y and Z start a business with Rs.7200. After 1 year X, Y and Z get Rs.60, Rs.90 and Rs.120 as profit. Z invests an amount (+1, -0.33)

a. Rs.1800

b. Rs.2400

c. Rs.2700

d. Rs.3200

69. Mr. X invests Rs.600 for 5 months and Y invests Rs.500 for 9 months in a business. The part of the profit will be distributed among them in the ratio. (+1, -0.33)

a. 3 : 2

b. 4 : 3

c. 6 : 5

d. 2 : 3

70. In a partnership business the total profit of A and B is Rs.2000. If the capital of A is Rs.6000 and profit is Rs.1200, then the capital of B is (+1, -0.33)

- a. Rs4000
- b. Rs5000
- c. Rs4500
- d. Rs3000

71. In a joint business X invests Rs.6000 for 9 months and Y invests Rs.8000 in some months. They get Rs.1800 and Rs.1600 as profit. In the business, the investment of Y was for (+1, -0.33)

- a. 4 months
- b. 5 months
- c. 6 months
- d. 8 months

72. In a joint business the capitals of A and B are in the ratio 3 : 4 and the capitals of B and C are in the ratio 6 : 5. If A gets a profit of Rs.450, find the profit of C. (+1, -0.33)

- a. Rs.400
- b. Rs.500
- c. Rs.600
- d. Rs.450

73. In a joint business the capitals of P, O and R are in the ratio $\frac{1}{4} : \frac{1}{3} : \frac{1}{2}$. At the end of the year they make a profit of Rs.3900. Find how much of the profit C will get. (+1, -0.33)

- a. Rs2000
- b. Rs1500
- c. Rs1200
- d. Rs1800

74. M and N can finish a work in 15 and 20 days respectively. If they do the work together, find the ratio of their income. (+1, -0.33)

- a. 3 : 4
- b. 2 : 3
- c. 4 : 3
- d. 3 : 2

75. If 36 bighas of land may be irrigated in 16 days by a well-pump working 15 hours a day. How many days will it take to irrigate 42 bighas of land by the pump working 10 hours a day? (+1, -0.33)

- a. 30
- b. 28
- c. 25
- d. 32

76. In a business P invests Rs.12,000. After some days Q joins the business and invests Rs.16,000 in it. 9 months after Q joins, P and Q get same profit. Find for how many months P's money was invested in the business (+1, -0.33)

- a. 20 months
- b. 11 months
- c. 12 months
- d. 10 months

77. P starts a business with capital of Rs.5000. After 3 months Q joins in the business with capital Rs.6000 and after 5 months R invests Rs.8000 in the business. At the end of the year of the profit is Rs.3400, how much money each will get? (+1, -0.33)

- a. Rs.1200, Rs.1080 and Rs.1120
- b. Rs.1200, Rs.1100 and Rs.1000
- c. Rs.1200, Rs.1000 and Rs.800
- d. Rs.1200, Rs.900 and Rs.1100

78. S and T start a business with Rs.2400 and Rs.1600. After one year if S suffers a loss of Rs.45 in the business, then loss of T is (+1, -0.33)

- a. Rs.25
- b. Rs.30
- c. Rs.32

d. Rs.42

79. P and Q start a joint business. P invests Rs.500 for 9 months and Q invests some money in the business for 6 months. The total profit in the business is Rs.69 and Q gets a profit of Rs.46. The capital of Q in the business is (+1, -0.33)

- a. Rs.1500
- b. Rs.3000
- c. Rs.4500
- d. Rs.6000

80. In a joint business the ratio of the capitals of three partners is 5 : 7 : 9. If the profit in the business is Rs.420, then the third partner will get (+1, -0.33)

- a. Rs.100
- b. Rs.140
- c. Rs.180
- d. Rs.200

81. A and B are equal partners. They admit C and D as partners with $\frac{1}{5}$ th and $\frac{1}{6}$ th share respectively. What is the profit sharing ratio of all the partners ? (+1, -0.33)

- a. 19 : 19 : 12 : 10
- b. 21 : 19 : 13 : 9
- c. 19 : 17 : 13 : 10

d. 19 : 17 : 15 : 11

82. A and B are partners sharing profits in the ratio of 7 : 3. They admit C for $\frac{1}{5}$ th share, which he acquires in equal proportions from both. Find the new profit sharing ratio **(+1, -0.33)**

a. 2 : 1 : 1

b. 3 : 2 : 1

c. 4 : 3 : 1

d. 3 : 1 : 1

83. A and B are partners sharing profits in the ratio of 5 : 4. they admit C for $\frac{1}{9}$ th share, which he acquires from A. Find out the new profit sharing ratio. **(+1, -0.33)**

a. 3 : 3 : 1

b. 2 : 2 : 1

c. 4 : 4 : 1

d. 5 : 5 : 2

84. X and Y are partners in a firm sharing profits in the ratio of 3 : 2. They admit R as a new partner from 1st April, 2019. X gives $\frac{1}{3}$ rd of his share while Y gives $\frac{1}{10}$ th from his share. Calculate the sacrificing ratio. **(+1, -0.33)**

a. 3 : 2

b. 5 : 1

c. 2 : 3

d. 1 : 2

85. P and Q are partners sharing profits in the ratio of 3 : 2. P surrenders $\frac{1}{6}$ th of his share and Q surrenders $\frac{1}{4}$ th of his share in favour of R, a new partner. What is the sacrificing ratio? (+1, -0.33)

a. 3 : 2

b. 2 : 3

c. 1 : 1

d. 3 : 11

86. S and T are partners sharing profits in the ratio of 3 : 2. W admitted as a partner. The new profit sharing ratio of S, T and W is 4 : 3 : 2. Find out the sacrificing ratio. (+1, -0.33)

a. 3 : 5

b. 7 : 3

c. 5 : 3

d. 3 : 7

87. P and Q were partners sharing profits in the ratio of 3 : 2. They admit R and S as new partners. P surrenders $\frac{1}{3}$ rd of his share in favour of R and Q surrenders $\frac{1}{4}$ th of his share in favour of S. Calculate the new profit sharing ratio of P, Q, R and S. (+1, -0.33)

a. 4 : 3 : 2 : 1

b. 5 : 4 : 3 : 2

c. 4 : 4 : 3 : 2

d. 4 : 4 : 3 : 1

88. A and B are partners sharing profits in the ratio of 7 : 5. They agree to admit C, their manager into partnership, who is to get $\frac{1}{6}$ th share in profits. He acquires his share $\frac{1}{24}$ th from A and $\frac{1}{8}$ th from B. Calculate the new profit sharing ratio. (+1, -0.33)

a. 13 : 11 : 9

b. 13 : 7 : 4

c. 13 : 11 : 7

d. 13 : 11 : 5

89. A, B and C are partners in a firm sharing profits in the ratio of 4 : 3 : 2. They admit D as a new partner. A, B and C each surrendered $\frac{1}{3}$ rd of their shares in favour of D. Calculate the new profit sharing ratio of A, B, C and D. (+1, -0.33)

a. 8 : 6 : 4 : 9

b. 8 : 6 : 5 : 4

c. 8 : 7 : 6 : 9

d. 8 : 6 : 7 : 9

90. A and B are in partnership sharing profits and losses in the ratio of 3 : 2. They admit C as a new partner. Calculate the new profit sharing ratio if C purchases $\frac{1}{10}$ th share from A. (+1, -0.33)

a. 5 : 4 : 3

b. $4 : 3 : 2$

c. $3 : 2 : 1$

d. $5 : 4 : 1$

-
91. A and B are partners in a firm sharing profits and losses in the ratio of $5 : 3$. (+1, -0.33)
They admit C as a partner for $\frac{1}{4}$ th share in the profits of the firm. Calculate the new profit sharing ratio of A, B and C if C acquires his share $\frac{1}{5}$ th from A and $\frac{1}{20}$ th from B.

a. $17 : 15 : 13$

b. $17 : 13 : 10$

c. $17 : 13 : 11$

d. $17 : 15 : 10$

-
92. $3\sqrt{3} - 4(\sqrt{7} + \sqrt{3}) + \sqrt{112} + \sqrt{3} = ?$ (+1, -0.33)

a. 5

b. 3

c. 7

d. 0

-
93. What least number must be added to 8275 to make the sum a perfect square? (+1, -0.33)

a. 4

b. 8

c. 5

d. 6

94. What least number must subtracted from 732 to make the remainder a perfect square? (+1, -0.33)

a. 3

b. 4

c. 5

d. 6

95. By what number must 192 be multiplied, so that the product may be a perfect square? (+1, -0.33)

a. 5

b. 4

c. 3

d. 2

96. By what least number must 1260 be divided to make the quotient a perfect square? (+1, -0.33)

a. 35

b. 30

c. 40

d. 45

97. The boys of a school can be arranged in 15, 18 or 24 equal rows and also into a solid square. Find the least number of boys in the school. (+1, -0.33)

a. 3800

b. 4000

c. 3600

d. 1000

98. P's age is $\frac{3}{4}$ of Q's and R's age is $1\frac{1}{2}$ of Q's age. If the age of R is 30 years, find the age of P. (+1, -0.33)

a. 10 years

b. 12 years

c. 15 years

d. 18 years

99. The ratio of two numbers is 3 : 4 and their L.C.M. is 180. Find the numbers. (+1, -0.33)

a. 45, 60

b. 40, 25

c. 50, 30

d. 30, 60

100. The ratio of two numbers is 5 : 8 and their difference is 69. Find the numbers.

(+1, -0.33)

- a. 120, 131
- b. 150, 163
- c. 115, 184
- d. 118, 173

101. Find the missing term in each at the following series

(+1, -0.33)

1, 6, 15, ?, 45, 66, 91

- a. 25
- b. 26
- c. 27
- d. 28

102. Find the missing term in each at the following series

(+1, -0.33)

$11\frac{1}{9}, 12\frac{1}{2}, 14\frac{2}{7}, 16\frac{2}{3}$

- a. $8\frac{1}{3}$
- b. $19\frac{1}{2}$
- c. 20
- d. $22\frac{1}{3}$

103. In the series 2, 6, 18, 54, ..., what will be the 8th term? (+1, -0.33)

- a. 4370
- b. 4374
- c. 7443
- d. 7434

104. Find out wrong term : (+1, -0.33)

380, 188, 92, 48, 20, 8, 2

- a. 8
- b. 20
- c. 48
- d. 188

105. Find the next term in the series : BMO, EOQ, HQS ? (+1, -0.33)

- a. KSU
- b. LMN
- c. SOV
- d. SOW

106. Vigilant : Alert :: Viable : ? (+1, -0.33)

- a. Active
- b. Hopeless
- c. Feasible
- d. Useful

107. Fog :: Visibility :: AIDS :: ?

(+1, -0.33)

- a. Health
- b. Resistance
- c. Virus
- d. Death

108. Infrared is to Heat as Ultraviolet is to _ _ _ _ _

(+1, -0.33)

- a. Cancer
- b. Blisters
- c. Mutation
- d. Ozone

109. Select the lettered pair that has the same relationship as the original pair of the words.

(+1, -0.33)

Sip : Gulp

- a. Touch : Push

- b. Cup : Class
 - c. Tent : Hut
 - d. Soup : Water
-

110. Select the lettered pair that has the same relationship as the original pair of the words. (+1, -0.33)

Deplete : Enervate

- a. tighten : Loosen
 - b. Exhaust : Enfeeble
 - c. Invigorate : Tired
 - d. Strengthen : Weak
-

111. Select the lettered pair that has the same relationship as the original pair of the words. (+1, -0.33)

Lugubrious : Sorrowful

- a. Lustrous : Luscious
 - b. Frenzied : Excited
 - c. Credible : Incredible
 - d. Euphoric : Sad
-

112. Select the lettered pair that has the same relationship as the original pair of the words. (+1, -0.33)

Incandescent : Glowing

- a. Flash : Flame
- b. Tedious : Bore
- c. Boor : Oafish
- d. Indefatigable : Untiring

113. Select the lettered pair that has the same relationship as the original pair of the words. (+1, -0.33)

Annihilation : Fire :: Cataclysm : ?

- a. Emergency
- b. Tribulation
- c. Anxiety
- d. Flood

114. Select the lettered pair that has the same relationship as the original pair of the words. (+1, -0.33)

Paw : Cat :: Hoof : ?

- a. Horse
- b. Lion
- c. Lamb
- d. Elephant

115. Select the lettered pair that has the same relationship as the original pair of the words. (+1, -0.33)

MAN : PDQ :: WAN : ?

- a. NAW
- b. ZDQ
- c. YDQ
- d. YQD

116. Choose the word which is the least like the other words in the group (+1, -0.33)

- a. Copper
- b. Zinc
- c. Brass
- d. Aliminium

117. Choose out the odd one. (+1, -0.33)

- a. Phi
- b. Gamma
- c. Peso
- d. Beta

118. Choose out the odd one. (+1, -0.33)

- a. autocracy
 - b. Bureaucracy
 - c. Diplomacy
 - d. Tehocracy
-

119. Find the odd one.

(+1, -0.33)

- a. CALORIC
 - b. DRUID
 - c. ELOPE
 - d. FRETFUL
-

120. Choose the word different from the rest.

(+1, -0.33)

- a. Tibia
 - b. Cortex
 - c. cranium
 - d. Cerebellum
-

121. If GOLD is coded as HOME, COME is coded as DONE and CORD is coded as DOSE, how would you code SONS ?

(+1, -0.33)

- a. TPOT
- b. TOOT

c. TOOS

d. TONT

122. If in a certain language, CHARCOAL is coded as 45164913 and MORALE is coded as 296137, how is the word ALLOCHRE coded in that language ? (+1, -0.33)

a. 13396875

b. 16693985

c. 13394567

d. 19943785

123. If 'air' is called 'green', 'green' is called 'blue', 'blue' is called 'sky', 'sky' is called 'yellow', 'yellow' is called 'water' and 'water' is called 'pink', then what is the colour of clear sky ? (+1, -0.33)

a. Blue

b. Sky

c. Yellow

d. Pink

124. In a certain code language, 'si po re' means 'book is thick', 'ti na re' means 'bag is heavy', 'ka si' means 'interesting book' and 'de ti' means 'that bag'. What should stand for 'that is interesting' in that code language ? (+1, -0.33)

a. ka de re

b. ti po ka

c. ka re na

d. de si re

125. (i) 'kemp lamp tems' means 'speak the truth'; (+1, -0.33)

(ii) 'bis tim nak' means 'always seek knowledge';

(iii) 'tim tems sik' means 'knowledge is truth';

(iv) 'lik bis zap' means 'never seek violence'.

Which letter code stands for 'always' ?

a. nak

b. tim

c. bis

d. zap

126. Introducing Reena, Monika said, "She is the only daughter of my father's only daughter". How is Monika related of Reena ? (+1, -0.33)

a. Aunt

b. Niece

c. Cousin

d. None of the above

127. Given that (+1, -0.33)

- (i) A is the mother of B
- (ii) C is the son of A
- (iii) D is the brother of E
- (iv) E is the daughter of B

The grandmother of D is

- a. A
- b. B
- c. C
- d. E

128. A is the brother of B, B is the daughter of C and D is the father of A, then how is C related to D ? (+1, -0.33)

- a. Husband
- b. Wife
- c. Granddaughter
- d. Grandfather

129. Ravi and Kunal are good in Hockey and Volleyball. Sachin and Ravi are good in Hockey and Baseball, Gaurav and Kunal are good in Cricket and Volleyball. Sachin, Gaurav and Michael are good in Football and Baseball. Who is good in Hockey, Cricket and Volleyball ? (+1, -0.33)

- a. Sachin

- b. Kunal
- c. Ravi
- d. Gaurav

130. Six students A, B, C, D, E and F are sitting in the field. A and B are from Delhi while the rest are from Bangalore. D and F are tall while others are short. A, C and D are girls while others are boys. Who is the tall girl from Bangalore ? (+1, -0.33)

- a. C
- b. D
- c. E
- d. F

131. A, P, R, X, S and Z are sitting in a row. S and Z are in the centre and A and P are in the ends. R is sitting on the left of A. Then who is sitting on the right of P ? (+1, -0.33)

- a. A
- b. S
- c. X
- d. Z

132. Alka is older than Mala, Gopal is older than Mala but younger than Alka. Kapil is younger than Ram and Mala. Mala is older than Ram. (+1, -0.33)

Whose age is between Gopal and Ram ?

- a. Mala
 - b. Kapil
 - c. Alka
 - d. None of the above
-

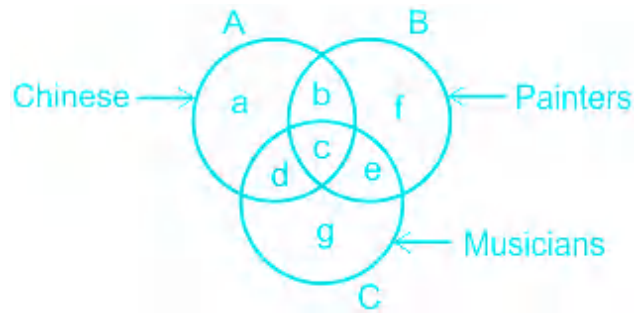
133. I am facing south. I turn right and walk 20 m. Then I turn right again and walk 10 m. Then I turn left and walk 10 m and then turning right walk 20 m. Then I turn right again and walk 60 m. In which direction am I from the starting point ? (+1, -0.33)

- a. North
 - b. North-West
 - c. East
 - d. North-East
-

134. Kailash walks 3 km to East and turns South and walks 4 km. Again turns West and walks 6 km. How far is he from the starting point ? (+1, -0.33)

- a. 5 km
 - b. 6 km
 - c. 7 km
 - d. 4 km
-

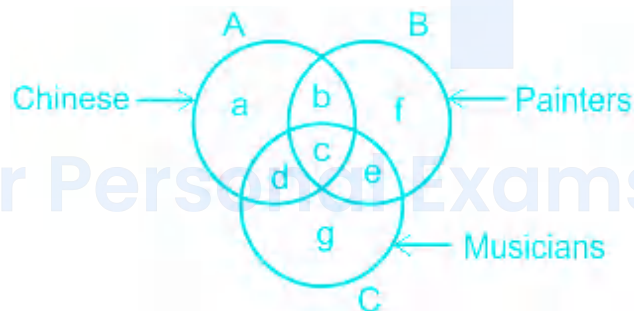
135. Choose the letter of the region which correctly represents the statement. (+1, -0.33)



Chinese who are painters but not Musicians

- a. b
- b. c
- c. d
- d. g

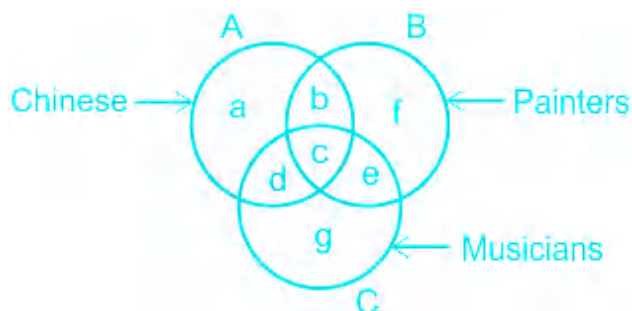
136. Choose the letter of the region which correctly represents the statement. (+1, -0.33)



Painters who are neither Chinese nor Musicians

- a. b
- b. c
- c. f
- d. g

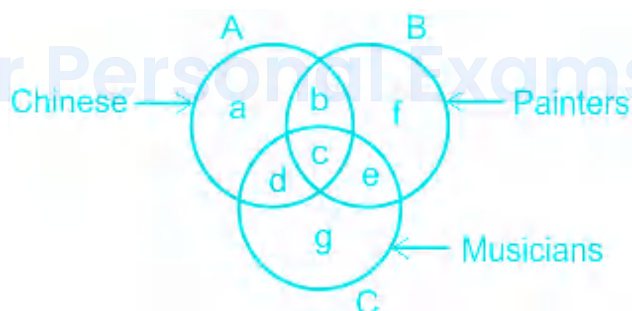
137. Choose the letter of the region which correctly represents the statement. (+1, -0.33)



Chinese who are Musicians but not Painters

- a. d
- b. c
- c. b
- d. a

138. Choose the letter of the region which correctly represents the statement. (+1, -0.33)



Chinese who are Painters as well as Musicians

- a. a
- b. b
- c. c

d. d

139. Which of the following words will come second in the English dictionary ? (+1, -0.33)

- a. Magical
- b. Magnify
- c. Magnetic
- d. Maternal

140. In each of these questions, jumbled letters of a meaningful word are given. (+1, -0.33)

You are to rearrange these letters and select from the given alternatives the word which is almost opposite in meaning to the rearranged word

YPCUIAT

- a. Surplus
- b. Scarcity
- c. Presence
- d. Richness

141. In each of these questions, jumbled letters of a meaningful word are given. (+1, -0.33)

You are to rearrange these letters and select from the given alternatives the word which is almost opposite in meaning to the rearranged word

SAYMTNE

- a. Hostility
- b. Acquittal

- c. Immunity
 - d. Punishment
-

142. In each of these questions, jumbled letters of a meaningful word are given. **(+1, -0.33)**
You are to rearrange these letters and select from the given alternatives the word which is almost opposite in meaning to the rearranged word

MRPBLOE

- a. Reply
 - b. Solution
 - c. Answer
 - d. Resolution
-

143. Nitin ranks eighteenth in a class of 49 students. What is his rank from the last ? **(+1, -0.33)**

- a. 18
 - b. 19
 - c. 31
 - d. 32
-

144. If P denotes +, Q denotes -, R denotes $\times$ and S denotes $\div$, which of the following statements is correct ? **(+1, -0.33)**

- a. $36 R 4 S 8 Q 7 P 4 = 10$

b. $16 R 12 P 49 S 7 Q 9 = 200$

c. $32 S 8 R 9 = 160 Q 12 R 12$

d. $8 R 8 P 8 S 8 Q 8 = 57$

145. Arrange the following in a logical order :

(+1, -0.33)

1. Shoulder 2. Wrist 3. Elbow 4. Plam 5. Finger

a. 2, 4, 5, 3, 1

b. 3, 1, 4, 2, 5

c. 3, 4, 5, 2, 1

d. 5, 4, 2, 3, 1

146. A waiter's income consists of his salary and tips. During one week his tips were $\frac{5}{4}$ of his salary, What fraction of his income came from tips ? 545454

(+1, -0.33)

a. $\frac{4}{9}$

b. $\frac{5}{4}$

c. $\frac{5}{8}$

d. $\frac{5}{9}$



147. a. 42 (+1, -0.33)

b. 46

c. 48

d. 50

148. If on a tough day you are the only person available to handle the customers, you should (+1, -0.33)

a. ask for additional help from the boss.

b. take leave and go back home.

c. just do your part of the work.

d. try and work to the maximum of your ability to satisfy customers.

149. Statements: (+1, -0.33)

All men are married. Some men are educated.

Conclusions:

I. Some married are educated.

II Some educated are married.

- a. Only conclusion I follows
- b. Only conclusion I and II follows.
- c. Either conclusion I or II follows.
- d. Both conclusions I and II follows.

150. Statements:

(+1, -0.33)

Some papers are pens. Angle is a paper.

Conclusion:

I. Angle is not a pen.

II. Angle is a pen.

- a. Only conclusion I follows.
- b. Only conclusion I and II follows.
- c. Either conclusion I or II follows.
- d. Both conclusions I and II follows.

151. Statement:

(+1, -0.33)

'Smoking is injurious to health' – A warning printed on the cigarette packets.

Assumptions:

- I. People read printed matter on a cigarette packet.
- II. People take careful note of a warning.

III. Non-Smoking promotes health.

IV. None of the above

- a. None is Implicit
- b. Only I and II are Implicit
- c. All are Implicit
- d. Only II and III are Implicit.

152. Statement:

(+1, -0.33)

The Reserve Bank of India has directed the banks to refuse fresh loans to major defaulters.

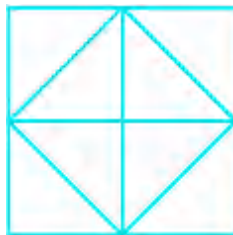
Assumptions:

- I. The banks may still give loans to the defaulters.
- II. The defaulters may repay the earlier loans to get fresh loans.
- III. The banks may recover the bad loans through such harsh measures.

- a. None is Implicit.
- b. Only I and II are Implicit.
- c. All are Implicit.
- d. Only II and III are Implicit.

153. Count the number of triangles :

(+1, -0.33)

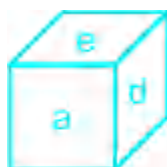


- a. 16
- b. 12
- c. 8
- d. 4

154. Which of the following collections of letters will look the same in the mirror ? (+1, -0.33)

- a. OSMIHOM
- b. VHRTRVH
- c. HIMOSTA
- d. AOVIVOA

155. In a dice a, b, c and d are written on the adjacent faces, in a clockwise order and e and f at the top and bottom. When c is at the top, what will be at the bottom ? (+1, -0.33)



- a. a

- b. b
- c. c
- d. Data insufficient

156. Study the following information and answer the question.

(+1, -0.33)

There are five trees A, B, C, D and E, E is to the north-east of B, A is 15 m to the east of B, which is 40 m to the west of D, C is to the north-west of A and on the line of BE. A is 30 m to the south of E.

What is the distance between tree A and tree D ?

- a. 16 m
- b. 25 m
- c. 35 ,
- d. 30 m

157. Study the following information and answer the question.

(+1, -0.33)

There are five trees A, B, C, D and E, E is to the north-east of B, A is 15 m to the east of B, which is 40 m to the west of D, C is to the north-west of A and on the line of BE. A is 30 m to the south of E.

In which direction is E with respect to D ?

- a. North
- b. East
- c. North-West

d. South-West

158. The area of a triangle is equal to the area of a square whose side measures 75 meters. Find the side of the triangle whose corresponding altitude is 125 meters. (+1, -0.33)

a. 70 m

b. 75 m

c. 90 m

d. 65 m

159. In a certain code 'BASKET' is written as m '5 \$ 3 % # 1' and 'TRIED' is written as '14 * # 2'. How is 'SKIRT' written in that code ? (+1, -0.33)

a. 3 % * 41

b. 3 * % 41

c. 3 % # 41

d. 3 # 4 % 1

160. The position of the first and the fifth digits of the number 81943275 are interchanged. Similarly the position of the second and the sixth digits are interchanged and so on till the forth and the eighth digits. Which of the following will be the third digit from the right end after the rearrangement ? (+1, -0.33)

a. 1

b. 9

c. 2

d. 4

161. $\frac{5}{8} \times 2\frac{3}{5} \div \frac{4}{9} = ?$

(+1, -0.33)

a. $2\frac{13}{27}$

b. $1\frac{11}{27}$

c. $2\frac{23}{32}$

d. $3\frac{21}{32}$

162. $3\frac{2}{3} + 2\frac{3}{4} + 1\frac{1}{2} = ?$

(+1, -0.33)

a. $8\frac{11}{12}$

b. $10\frac{12}{13}$

c. $7\frac{11}{12}$

d. $9\frac{11}{13}$

163. 4, 10, ?, 82, 244, 730

(+1, -0.33)

a. 26

b. 28

c. 40

d. 48

164. Amongst the following words, which will appear third in the dictionary ? (+1, -0.33)

- a. Immutable
- b. Immigrate
- c. Imperative
- d. Impassioned.

165. Study the following information and answer the questions given below: (+1, -0.33)

There are seven friends T, U, V, W, X, Y and Z who work in seven different shops – Oswal, Max, Vmart, Reliance Fresh, Wallmart, Easyday and Big Bazar, but not necessarily in the same order. Each of them likes a different colour — Black, Blue, Red, White, Orange, Green and Yellow — but not necessarily in the same order.

V works in Oswal and he likes neither Red not Orange.

X does not work in Vmart.

Z works in Big Bazar and likes Green colour.

W likes White and works in Max.

The one who works in Easyday likes blue colour.

X and Y do not work in Reliance Fresh and neither of them likes Orange colours.

U works in Walmart and likes Yellow colour.

X works in which of the following shops ?

- a. Easyday
- b. Vmart

c. Max

d. Big Bazar

166. Study the following information and answer the questions given below: (+1, -0.33)

There are seven friends T, U, V, W, X, Y and Z who work in seven different shops – Oswal, Max, Vmart, Reliance Fresh, Wallmart, Easyday and Big Bazar, but not necessarily in the same order. Each of them likes a different colour — Black, Blue, Red, White, Orange, Green and Yellow — but not necessarily in the same order.

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Z works in Big Bazar and likes Green colour.

W likes White and works in Max.

The one who works in Easyday likes blue colour.

X and Y do not work in Reliance Fresh and neither of them likes Orange colours.

U works in Walmart and likes Yellow colour.

V likes which of the following colours ?

a. Black

b. Red

c. Blue

d. Can't be determined

167. Study the following information and answer the questions given below: (+1, -0.33)

There are seven friends T, U, V, W, X, Y and Z who work in seven different shops – Oswal, Max, Vmart, Reliance Fresh, Wallmart, Easyday and Big Bazar, but not necessarily in the same order. Each of them likes a different colour — Black, Blue, Red, White, Orange, Green and Yellow — but not necessarily in the same order.

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W likes White and works in Max.

The one who works in Easyday likes blue colour.

X and Y do not work in Reliance Fresh and neither of them likes Orange colours.

U works in Walmart and likes Yellow colour.

Which of the following combinations is true ?

a. Z-Big Bazar-Green

b. V-Oswal-Black

c. Y-Vmart-Red

d. All are true

168. Study the following information and answer the questions given below:

(+1, -0.33)

There are seven friends T, U, V, W, X, Y and Z who work in seven different shops – Oswal, Max, Vmart, Reliance Fresh, Wallmart, Easyday and Big Bazar, but not necessarily in the same order. Each of them likes a different colour — Black, Blue, Red, White, Orange, Green and Yellow — but not necessarily in the same order.

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Z works in Big Bazar and likes Green colour.

W likes White and works in Max.

The one who works in Easyday likes blue colour.

X and Y do not work in Reliance Fresh and neither of them likes Orange colours.

U works in Walmart and likes Yellow colour.

Who among the following likes Orange colour ?

- a. Y
- b. X
- c. V
- d. T

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169. Study the following information and answer the questions given below: (+1, -0.33)

There are seven friends T, U, V, W, X, Y and Z who work in seven different shops – Oswal, Max, Vmart, Reliance Fresh, Walmart, Easyday and Big Bazar, but not necessarily in the same order. Each of them likes a different colour — Black, Blue, Red, White, Orange, Green and Yellow — but not necessarily in the same order.

V works in Oswal and he likes neither Red nor Orange.

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Z works in Big Bazar and likes Green colour.

W likes White and works in Max.

The one who works in Easyday likes blue colour.

X and Y do not work in Reliance Fresh and neither of them likes Orange colours.

U works in Walmart and likes Yellow colour.

Which of the following statements is true ?

- a. T works in Reliance Fresh and likes Orange colour.
- b. X works in Vmart and likes Blue colour.
- c. V likes White colour & works in Oswal.
- d. None is true

170. A bag contains 4 White shirts, 4 Black shirts and 6 Pink shirts. Two shirts are drawn randomly, what is the probability that at most one shirt is white ? (+1, -0.33)

- a. $\frac{72}{91}$
- b. $\frac{85}{91}$
- c. $\frac{62}{91}$
- d. $\frac{31}{91}$

171. Which of the following will not be number of the series ? (+1, -0.33)

1, 8, 27, 64, 125, _ _ _ _ _

- a. 216

- b. 512
 - c. 729
 - d. 1000
-

172. Pulp : Paper :: Hemp : ?

(+1, -0.33)

- a. Basket
 - b. Yarn
 - c. Rope
 - d. Cotton
-

173. Tectonics : Building :: Taxidermy : ?

(+1, -0.33)

- a. Classification
 - b. Conserving
 - c. Stuffing
 - d. Collecting
-

174. Ecology is related to Environment in the same way as Histology is related to _ _ _ _ _

(+1, -0.33)

- a. Fossils
- b. History
- c. Tissues

d. Hormones

175. Select the lettered pair that has the same relationship as the original pair of words. (+1, -0.33)

Intelligentsia : Elitist

a. Commonality : Common class

b. Gentry : Public

c. Rabble : Plebeian

d. OuterShell : Sea Shell

176. Choose out the odd one : (+1, -0.33)

a. Pupil

b. Iris

c. Cornea

d. Medulla

177. In a certain code BREAKTHROUGH is written as EAOUHRBRGHKT. How is DISTRIBUTION written in that code ? (+1, -0.33)

a. TISTBUONDIRI

b. STTIBUONRIDI

c. STTIBUDIONRI

d. RISTTIBUDION

178. If 'ski rps tri' stands for 'nice Sunday morning', 'tel sti rps' stands for 'every Tuesday morning' and 'ski ptr qlm' stands for 'nice market place', which word stands for 'Sunday' ? (+1, -0.33)

- a. ski
- b. rps
- c. tril
- d. qlm

179. A woman going with a boy is asked by another woman about the relationship between them. The woman replied, "My maternal uncle and the uncle of his maternal uncle is the same". How is the lady related with the boy ? (+1, -0.33)

- a. Grand mother and Grand son
- b. Mother and son
- c. Aunt and Nephew
- d. None of the above

180. **Direction:** Read the following information carefully and answer the question given below it : (+1, -0.33)

There are five men A, B, C, D and E and six women P, Q, R, S, T and U. A, B and R are advocates; C, D, P, Q and S are doctors and the rest are teachers. Some teams are to be selected from amongst these eleven persons subject to the following conditions :

A, P and U have to be together

B can not go with D or R

E and Q have to be together

C and T have to be together

D and P can not go together

C can not go with Q.

If the team is to consist of two male advocates, two lady doctors and one teacher, the members of the team are

a. A, B, P, Q, U

b. A, B, P, U, S

c. A, P, R, S, U

d. B, E, Q, R, S

181. Direction: Read the following information carefully and answer the question given below it : (+1, -0.33)

There are five men A, B, C, D and E and six women P, Q, R, S, T and U. A, B and R are advocates; C, D, P, Q and S are doctors and the rest are teachers. Some teams are to be selected from amongst these eleven persons subject to the following conditions :

A, P and U have to be together

B can not go with D or R

E and Q have to be together

C and T have to be together

D and P can not go together

C can not go with Q.

If the team is to consist of one advocate, two doctors, three teachers and C may not go with T, the members of the team are

a. A, E, P, Q, S, U

b. A, E, P, Q, T, U

c. B, E, Q, S, T, U

d. E, Q, R, S, T, U

182. Direction: Read the following information carefully and answer the question (+1, -0.33) given below it :

There are five men A, B, C, D and E and six women P, Q, R, S, T and U. A, B and R are advocates; C, D, P, Q and S are doctors and the rest are teachers. Some teams are to be selected from amongst these eleven persons subject to the following conditions :

A, P and U have to be together

B can not go with D or R

E and Q have to be together

C and T have to be together

D and P can not go together

C can not go with Q.

If the team is to consist of one male advocate, one male doctor, one lady doctor and two teachers, the members of the team are

a. A, C, P, T, U

b. A, D, E, P, T

c. A, D, E, P, U

d. B, C, E, Q, U

183. Direction: Read the following information carefully and answer the question (+1, -0.33) given below it :

There are five men A, B, C, D and E and six women P, Q, R, S, T and U. A, B and R are advocates; C, D, P, Q and S are doctors and the rest are teachers. Some teams are to be selected from amongst these eleven persons subject to the following conditions :

A, P and U have to be together

B can not go with D or R

E and Q have to be together

C and T have to be together

D and P can not go together

C can not go with Q.

If the team is to consist of one advocate, three doctors and one male teacher, the members of the team are :

a. A, D, P, S; U

b. C, D, R, S, T

c. D, E, Q, R, S

d. D, E, Q, R, T

184. Direction: Read the following information carefully and answer the question (+1, -0.33) given below it :

There are five men A, B, C, D and E and six women P, Q, R, S, T and U. A, B and R are advocates; C, D, P, Q and S are doctors and the rest are teachers. Some teams are to be selected from amongst these eleven persons subject to the following conditions :

A, P and U have to be together

B can not go with D or R

E and Q have to be together

C and T have to be together

D and P can not go together

C can not go with Q.

If the team is to consist of two advocates, two doctors, two teachers and not more than three ladies, the members of the team are :

a. A, B, C, P, T, U

b. A, C, P, R, T, U

c. A, E, P, Q, R, T

d. B, C, E, Q, R, T

185. Choose group of letters different from others :

(+1, -0.33)

a. DXCLQZ

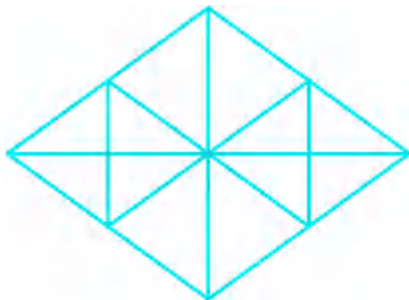
b. PFZUBM

c. XGKNTY

d. GJMQVX

186. Find the number of triangles

(+1, -0.33)



a. 16

b. 22

c. 28

d. 32

187. $\frac{4}{9}, \frac{9}{20}, ?, \frac{39}{86}$

(+1, -0.33)

a. $\frac{17}{40}$

b. $\frac{19}{42}$

c. $\frac{20}{45}$

d. $\frac{29}{53}$

188. Find the term which does not fit into the series given below :

(+1, -0.33)

G4T, J10R, M20P, P43N, S90L

a. G4T

b. J10R

c. M20P

d. P43N

189. Botany : Plants :: Entomology : ?

(+1, -0.33)

a. Snakes

b. Insects

c. Birds

d. Germs

190. Select the lettered pair that has the same relationship as the original pair of words :

(+1, -0.33)

Ogle : Observe

a. Flaunt : Display

b. Discern : perceive

c. Clamour : Despite

d. Haggle : outbid

191. Choose out the odd one :

(+1, -0.33)

a. Radium

b. Thorium

c. Sodium

d. Polonium

192. In a certain language, MIRACLE is coded as NKUEHRL, then how is GAMBLE coded in that language ? (+1, -0.33)

a. JDOCMF

b. CLEMNK

c. HCPFQK

d. AELGMN

193. In a certain code language, STRING is written as % = * - \$ ÷ and PRAISE as ? * @ - % ×. How will the word GRAPES be written in that code language ? (+1, -0.33)

a. ÷ * @ × ? %

b. ÷ @ * ? × %

c. ÷ * @ ? × %

d. None of the above

194. Pointing out to a lady, Rajan said, "She is the daughter of the woman who is the mother of the husband of my mother". Who is the lady to Rajan ? (+1, -0.33)

a. Aunt

b. Grand Daughter

c. Daughter

d. Sister-in-Law

195. Nine cricket fans are watching a match in a stadium. Seated in one row, they are J, K, L, M, N, O, P, Q and R. L is at the right of M and at third place at the right of N. K is at the end of the row. Q is seated adjacent to both O and P, O is at the third place at the left of K. J is right next to left of O. (+1, -0.33)

Who is sitting at the centre of the row ?

- a. L
- b. J
- c. O
- d. Q

196. Nine cricket fans are watching a match in a stadium. Seated in one row, they are J, K, L, M, N, O, P, Q and R. L is at the right of M and at third place at the right of N. K is at the end of the row. Q is seated adjacent to both O and P, O is at the third place at the left of K. J is right next to left of O. (+1, -0.33)

Who is at the other end of the row ?

- a. J
- b. N
- c. P
- d. R

197. A rat runs 20' towards East and turns to right, runs 10' and turns to right, runs 9' and again turns to left, runs 5' and then turns to left, runs 12' and finally turns to left and runs 6'. Now which direction is the rat facing ? (+1, -0.33)

- a. East

- b. West
 - c. North
 - d. South
-

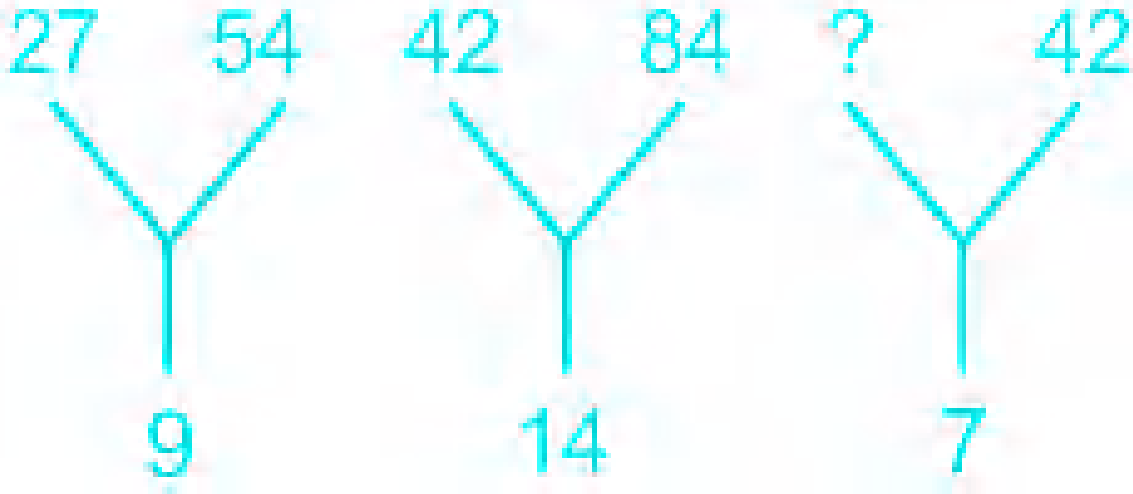
198. If + means $\times$, $\times$ means $-$, $\div$ means $+$ and $-$ means $\div$, then which of the following gives the result of (+1, -0.33)

$$175 - 25 \div 5 + 20 \times 3 + 10 ?$$

- a. 77
 - b. 160
 - c. 240
 - d. 2370
-

199. In a group of cows and hens, the number of legs are 14 more than twice the number of heads. The number of cows is (+1, -0.33)

- a. 5
 - b. 7
 - c. 10
 - d. 12
-



200. a. 12

(+1, -0.33)

b. 21

c. 24

d. 35

prepp

Your Personal Exams Guide

Answers

1. Answer: b

Explanation:

The correct answer is **option 2**.

Given:

The ratio of bus and train fares from Burdwan to a certain place is 3 : 4. If the train fare increases by 20% and bus fare by 10%.

Calculation:

Let assume fares of Bus = $3x$

And assume fares of Train = $4x$

If the train fare increases by 20% = 120% of $4x$

And Bus fare increases by 10% = 110% of $3x$

New ratio of bus and train fares

$$\Rightarrow 110\% \times 3x : 120\% \times 4x$$

$$\Rightarrow 11 \times 3 : 12 \times 4$$

$$\Rightarrow 11 : 16$$

So, the new ratio of bus and train fares will be 11 : 16.

2. Answer: c

Explanation:

The correct answer is **option 3**.

Given:

When the price of rice increases %, a man can get 250 gm less rice for Rs.18.

Calculation:

Let assume initial price of rice is $8x$ Rs./kg

After the price increases by $12\frac{1}{2}\% = 8x \times \frac{225}{200} = 9x$ Rs/kg

Quantity of Rice = $\frac{\text{Total amount}}{\text{Price per kg}}$

$$\Rightarrow \frac{18}{8x} - \frac{18}{9x} = 250 \text{ gm} = \frac{1}{4} \text{ kg}$$

$$\Rightarrow \frac{162x - 144x}{72x^2} = \frac{1}{4}$$

$$\Rightarrow \frac{18}{72x} = \frac{1}{4}$$

$$\Rightarrow x = 1 \text{ Rs/kg}$$

So, the present price of rice = $9x = 9 \times 1 = 9$ Rs./Kg

3. Answer: d

Explanation:

The correct answer is **option 4**.

Calculation:

Let assume first Number is N .

Second number is 20% more than first, second number = 120% of $N = 1.2N$

Third number is 10% less than second number, then third number = 90% of $1.2N = 1.08N$

Fourth number is 50% more than third number, then fourth number = 150% of $1.08N$

$$= 1.5 \times 1.08N = 1.62N$$

It is given that fourth number is 405.

Then $1.62N = 405$

$$N = \frac{405}{1.62}$$

$$N = 250$$

So, the first number = 250

Second number = $1.2N = 1.2 \times 250 = 300$

Third Number = $1.08N = 1.08 \times 250 = 270$

And fourth Number = 405

Hence, all the numbers are 250, 300, 270 and 405 respectively.

4. Answer: c

Explanation:

The correct answer is **option 3**.

Given: Your Personal Exams Guide

The expense for rice, fish and oil of a family are as 12 : 17 : 3.

The prices of these articles are increased by 20%, 30% and 50% respectively.

Calculation:

Let assume price of Rice = 120

Price of Fish = 170

Price of Oil = 30

Total expense of the family = $120 + 170 + 30 = 320$

The prices of these articles are increased by 20%, 30% and 50% respectively.

New Price of Rice = 120% of 120

$$= 1.2 \times 120 = 144$$

New Price of Fish = 130% of 170

$$= 1.3 \times 170 = 221$$

New Price of Oil = 150% of 30

$$= 1.5 \times 30 = 45$$

Now total expense of the family = $144 + 221 + 45 = 410$

$$\text{Percentage increase in expense} = \frac{410 - 320}{320} \times 100$$

$$= \frac{90}{320} \times 100$$

$$= 28\frac{1}{4}\%$$

So, the expenses for these articles of the family will be increased by $28\frac{1}{4}\%$.

5. Answer: a

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Explanation:

The correct answer is **option 1**.

Given:

A candidate answered 25 questions and two-fifth of the rest of the total number of questions

and he found that thus he has answered only 60% of the total number of questions.

Calculation:

Let assume total number of question = x

After answering 25 questions, the rest of the questions = $x - 25$

⇒ According to the direction of question

$$\Rightarrow 25 + \frac{2}{5} \times (x - 25) = 60\% \text{ of } x$$

$$\Rightarrow 25 + \frac{2x}{5} - \frac{2 \times 25}{5} = \frac{3}{5} \times x$$

$$\Rightarrow 25 - 10 = \frac{3x}{5} - \frac{2x}{5}$$

$$\Rightarrow \frac{x}{5} = 15$$

$$\Rightarrow x = 75$$

So, the number of questions answered by a candidate = 60% of 75

$$= \frac{60}{100} \times 75$$

$$= 45$$

Hence, he answered 45 questions in the examination.

6. Answer: a

Explanation:

The correct answer is **option 1**.

Given:

A man saves 20% of his income. If his expenses be increased by 35%.

Calculation:

Let assume man salary = Rs.100

Expenses = 80% of 100 = Rs. 80

If expenses increased by 35%

New expenses = 135% of 80

$$= \frac{135}{100} \times 80$$

$$= 108$$

He wants to save 10% of his income

Let assume new salary = x

Now, 90% of the salary = 108

$$\text{So, } x \times \frac{90}{100} = 108$$

$$\Rightarrow x = \text{Rs. } 120$$

So, new salary is Rs. 120.

$$\text{Percentage increase in the salary} = \frac{120 - 100}{100} \times 100 = 20\%$$

Hence, his income is to be raised by 20%.

7. Answer: d

Explanation:

The correct answer is **option 4**.

Given: Total mixture = 200 gallons

A mixture of milk and water contains $12\frac{1}{2}\%$ of water.

Calculation:

Water quantity in the mixture = $12\frac{1}{2}\%$ of 200 gallons

$$= \frac{25}{200} \times 200 = 25 \text{ gallons}$$

The quantity of milk = $200 - 25 = 175$ gallons

To make a mixture in which water may contain $37\frac{1}{2}\%$

So, remaining percentage of milk = $100\% - 37\frac{1}{2}\% = 62\frac{1}{2}\%$

Now, 175 gallons of the milk is equivalent to $62\frac{1}{2}\%$ of the new mixture.

So, 100% of new mixture = $\frac{175}{62\frac{1}{2}} \times 100$

$$= \frac{2 \times 175}{125} \times 100$$

= 280 gallons

Water added in 200 gallons mixture = $280 - 200 = 80$ gallons

So, 80 gallons water should be added .

8. Answer: b

Explanation:

The correct answer is **option 2**.

Given:

One litre of spirit which contains 10% of water is added to 3 litres of spirit containing 7% of water

and to this mixture half a litre water is added.

Calculation:

Water quantity in 1 Litre spirit which contains 10% of water = 0.1 L

Water quantity in 3 litres of spirit containing 7% of water = 0.21 L

Half a litre water is added = 0.5 L

Final quantity of mixture = $1 + 3 + 0.5 = 4.5$ L

Total quantity of water in final mixture = $0.1 + 0.21 + 0.5 = 0.81$ L

the percentage of water in the final mixture = $\frac{0.81}{4.5} \times 100$

$$= \frac{810}{45}$$

$$= 18\%$$

So, the percentage of water in the final mixture is 18%.

9. Answer: a

Explanation:

The correct answer is **option 1**.

Given:

A certain kind of brass is composed of copper, zinc, lead and tin,

the ratio of copper to zinc is 1 : 2 of zinc to lead is 3 : 5 and of lead to tin is 7 : 8.

Calculation:

Copper to zinc = 1 : 2 -----(1)

Zinc to lead = 3 : 5 -----(2)

lead to tin = 7 : 8 -----(3)

equalise the ratio of zinc and lead by multiplying 21, 14 and 10 with all equations respectively.

Copper : Zinc = 21 : 42

Zinc : lead = 42 : 70

lead : tin = 70 : 80

So, the ratio of copper, zinc, lead and tin

C : Z : L : T

21 : 42 : 70 : 80

Total sum of ratio = $21 + 42 + 70 + 80 = 213$

So, quantity of copper out of 213 gm = $\frac{21}{213} \times 213 = 21 \text{ gm}$

Similarly, quantity of Zinc out of 213 gm = $\frac{42}{213} \times 100 = 42 \text{ gm}$

Quantity of lead out of 213 gm = $\frac{70}{213} \times 213 = 70 \text{ gm}$

Quantity of Tin out of 213 gm = $\frac{80}{213} \times 100 = 80 \text{ gm}$

10. Answer: b

Explanation:

The correct answer is **option 2**.

Given:

25 men can weave 120 metres of cloth in a day.

Calculation:

If 25 men can weave 120 metres of cloth in a day.

So, 1 man can weave the cloth in a day = $\frac{120}{25}$

Cloths woven by 35 men = $\frac{120}{25} \times 35$

= 24×7

= 168 metres

So, 168 metres of cloth will be woven by 35 men in a day.

11. Answer: b

Explanation:

The correct answer is **option 2**.

Given:

12 men can do a piece of work in 30 days.

Concept Used: $\frac{\text{Manpower} \times \text{Time}}{\text{Work}} = \text{Constant}$

Calculation: Let assume extra Men = M

$$\Rightarrow \frac{12 \times 30}{1} = \frac{(M + 12) \times 20}{1}$$

$$\Rightarrow 360 = 20M + 240$$

$$\Rightarrow 20M = 120$$

$$\Rightarrow M = 6$$

So, 6 extra men should be engaged to do the work in 20 days.

Your Personal Exams Guide

12. Answer: d

Explanation:

The correct answer is **option 4**.

Given:

A man and a boy can do a piece of work in 36 days.

Calculation:

$$\text{A man and a boy one day work} = \frac{1}{36}$$

They work together for 30 days because the man works alone for the last 10 days out of total 40 days.

$$\text{A man and a boy 30 days work} = 30 \times \frac{1}{36} = \frac{5}{6}$$

$$\text{The remaining work completed by the man} = 1 - \frac{5}{6} = \frac{1}{6}$$

$$\text{The man 10 days is } \frac{1}{6}.$$

$$\text{So, man one day work} = \frac{1}{10 \times 6} = \frac{1}{60}$$

$$\text{The boy one day work} = \frac{1}{36} - \frac{1}{60}$$

$$= \frac{5 - 3}{180}$$

$$= \frac{1}{90}$$

So, the boy would take 90 days to do work alone.

13. **Answer: a**

Explanation:

The correct answer is **option 1**.

Given:

$$\text{A and B together one day work} = \frac{1}{25}$$

B works alone for 10 days.

Total time to complete the work = 40 days

Calculation:

A and B together work for 20 days

$$\text{So, A and B work of 20 days} = 20 \times \frac{1}{25} = \frac{4}{5}$$

$$\text{The remaining work} = 1 - \frac{4}{5} = \frac{1}{5}$$

B works for 10 days to complete the remaining $\frac{1}{5}$ work alone

$$\text{So, B's one day work} = \frac{1}{10 \times 5} = \frac{1}{50}$$

Now, A's one day work = A and B together one day work - B's alone one day work

$$= \frac{1}{25} - \frac{1}{50}$$

$$= \frac{1}{50}$$

So, A can do alone work in 50 day.

14. Answer: a

Explanation:

The correct answer is **option 1**.

Given: Your Personal Exams Guide

1200 boys and 600 girls are examined in a test.

42% of the boys and 30% of the girls passed.

Calculation:

Total number of students = 1200 + 600 = 1800

42% boys passed the examination = $\frac{42}{100} \times 1200$

= 12 x 42

= 504

$$30\% \text{ of girls passed the examination} = \frac{30}{100} \times 600$$

$$= 30 \times 6 = 180$$

$$\text{So, total passed students} = 504 + 180 = 684$$

$$\text{Total failed students} = 1800 - 684 = 1116$$

$$\text{Percentage of failed students} = \frac{1116}{1800} \times 100 = 62\%$$

So, the percentage of those failed students is 62%.

15. Answer: a

Explanation:

The correct answer is option 1.

Given:

If 50 men do a piece of work in 12 days working 8 hours a day.

Concept Used: $\frac{\text{Man} \times \text{Day} \times \text{Hour}}{W} = \text{Constant}$

Calculation:

$$\Rightarrow \frac{50 \times 12 \times 8}{W} = \frac{60 \times 16 \times \text{Hours}}{2W}$$

$$\Rightarrow 50 \times 12 \times 8 \times 2 = 60 \times 16 \times \text{Hours}$$

$$\Rightarrow \text{Hours} = 10$$

So, 10 hours a day would 60 men have to work in order to do another piece of work twice as great in 16 days.

16. Answer: c

Explanation:

The correct answer is **option 3**.

Given:

A contractor undertook to finish a road 12 km long in 350 days.

But after employing 45 men for 200 days he found that only 4 km of the road had been built.

Concept Used: $\frac{M \times D}{W} = \text{Constant}$

Calculation:

⇒ The remaining days to complete 8 km road construction are 150 days.

⇒ Let assume additional men are M.

$$\Rightarrow \frac{45 \times 200}{4} = \frac{(M + 45) \times 150}{8}$$

$$\Rightarrow 2 \times 45 \times 200 = (M + 45) \times 150$$

$$\Rightarrow M + 45 = 120$$

$$\Rightarrow M = 120 - 45$$

$$\Rightarrow M = 75 \text{ men}$$

So, 75 additional men must be engaged to finish the work in the given time.

17. Answer: a

Explanation:

The correct answer is **option 1**.

Given:

A laboratory has to pay Rs.67.50 for 30 days as gas bill. If it uses 35 gas burners for 6 hours a day.

Concept Used: $\frac{\text{Gas burner} \times \text{Days} \times \text{Hours}}{\text{Amount}} = \text{Constant}$

Calculation:

$$\Rightarrow \frac{35 \times 30 \times 6}{67.50} = \frac{30 \times 18 \times 7}{\text{Amount}}$$

$$\Rightarrow 5 \times \text{Amount} = 67.50 \times 3$$

$$\Rightarrow \text{Amount} = \frac{202.5}{5}$$

$$\Rightarrow \text{Amount Paid} = \text{Rs. 40.50}$$

So, the amount to be paid Rs. 40.50.

18. Answer: d

Explanation:

The correct answer is **option 4**.

Given: Your Personal Exams Guide

The cost of printing a magazine of 540 pages with 30 lines on each page and 15 words in each line is Rs,7200.

Concept Used: $\frac{\text{Pages} \times \text{lines} \times \text{words}}{\text{Cost of printing}} = \text{Constant}$

Calculation:

$$\Rightarrow \frac{540 \times 30 \times 15}{7200} = \frac{450 \times 35 \times 18}{\text{Cost of printing}}$$

$$\Rightarrow \text{Cost of printing} = \frac{7 \times 7200}{6}$$

$$\Rightarrow \text{Cost of Printing} = 7 \times 1200 = \text{Rs.8400}$$

So, the cost of printing is Rs. 8400.

19. Answer: c

Explanation:

The correct answer is **option 3**.

Given:

If a, b, c and x be the 1st, 2nd, 3rd and the 4th proportions respectively.

Calculation:

$$\Rightarrow a : b :: c : x$$

$$\Rightarrow a \times x = b \times c$$

$$\Rightarrow x = \frac{bc}{a}$$

So, the value of x will be $\frac{bc}{a}$.

20. Answer: b

Explanation:

The correct answer is **option 2**.

Calculation:

We know,

$$\sqrt{4} = 2$$

$$\sqrt{9} = 3$$

So value of $\sqrt{7}$ lies between 2 and 3.

21. Answer: b

Explanation:

The correct answer is **option 2**.

Calculation:

$$\Rightarrow \sqrt{300} - \sqrt{45} + \sqrt{125} - \sqrt{108} - \sqrt{20} - \sqrt{48}$$

$$\Rightarrow 10\sqrt{3} - 3\sqrt{5} + 5\sqrt{5} - 6\sqrt{3} - 2\sqrt{5} - 4\sqrt{3}$$

$$\Rightarrow 10\sqrt{3} - 10\sqrt{3} + 5\sqrt{5} - 5\sqrt{5}$$

$$\Rightarrow 0$$

So, the value of expression $\sqrt{300} - \sqrt{45} + \sqrt{125} - \sqrt{108} - \sqrt{20} - \sqrt{48}$ is equal to 0.

22. Answer: a

Explanation:

The correct answer is **option 1**.

Given:

If the ratio of cost price and selling price is 25 : 26.

Concept Used: $\frac{\text{Cost price}}{\text{selling price}} = \frac{100}{100 + \text{Profit}}$

Calculation:

$$\Rightarrow \frac{25}{26} = \frac{100}{100 + \text{Profit}}$$

$$\Rightarrow 100 + \text{Profit} = 4 \times 26$$

$$\Rightarrow \text{Profit} = 104 - 100$$

⇒ Profit = 4 %

So, the percentage of profit is 4%.

23. Answer: c

Explanation:

The correct answer is **option 3**.

Given:

There is some loss if an article is sold at Rs.120.

There is same amount of profit if the article is sold of Rs.140.

Calculation:

Let assume cost price = Rs. x

Loss on the article = $x - 120$

Profit on the article = $140 - x$

it is given that loss and profit are of same amount.

$$\Rightarrow x - 120 = 140 - x$$

$$\Rightarrow 2x = 120 + 140$$

$$\Rightarrow 2x = 260$$

$$\Rightarrow x = 130$$

So, the cost price of the article is Rs. 130.

24. Answer: d

Explanation:

The correct answer is **option 4**.

Given:

A man sold a stove for Rs.423 and incurred a loss of 6%.

Calculation:

Let assume cost of a stove is Rs. x.

There is a loss of 6% that means selling price is 94% of cost price.

Selling price = 94% of cost price

$$\Rightarrow 423 = 94\% \text{ of } x$$

$$\Rightarrow x = \frac{423 \times 100}{94}$$

$$\Rightarrow x = \text{Rs. } 450$$

So, cost price of a stove = Rs. 450

So as to earn a profit of 8%

Selling price = 108% of cost price

$$\text{Selling Price} = \frac{108}{100} \times 450$$

Selling price = Rs 486

So, the selling should be Rs 486 to earn a profit of 8%.

25. Answer: c

Explanation:

The correct answer is **option 3**.

Given:

A man sold an article at a gain of 5%. Had he sold it for Rs.240 more, he would have gained 8%.

Calculation:

⇒ 3% increases in the profit for Rs 240

⇒ Because profit is earned on the cost price.

So, 3% of cost price is equivalent to 240

Then 100% of cost price is equivalent to $= \frac{240}{3} \times 100$

= Rs. 8000

So, the cost price of the article is Rs 8000.

26. Answer: d

Explanation:

The correct answer is **option 4**.

Given:

The ratio of manufacturing cost of two sharies is 2 : 5.

If the first shari is sold at 15% profit and the second shari is sold at 18% profit

then the manufacturer makes a total profit of Rs.396.

Calculation:

Let assume the manufacturing cost of two sharies 2x and 5x.

15% Profit on first shari = 15% of $2x$

18% Profit on second shari = 18% of $5x$

⇒ Total profit in these transaction = Rs. 396

⇒ 15% of $2x$ + 18% of $5x$ = 396

⇒ $0.15 \times 2x + 0.18 \times 5x = 396$

⇒ $0.30x + 0.90x = 396$

⇒ $1.20x = 396$

⇒ $x = 330$

Cost of manufacture of first shari = $2x = 2 \times 330 = \text{Rs. } 660$

So, the cost of manufacturing first shari is Rs. 660.

27. Answer: a

Explanation:

The correct answer is **option 1**.

Given:

A book seller allowing 12% discount on the marked price of a book made a profit of 10%.

Calculation:

Let assume cost price = Rs. 100

after 10% profit, selling price = Rs. 110

Let assume marked price = Rs. x

Allowing 12% discount on marked price for selling,

that means 88% of marked price is equivalent to selling price.

$\Rightarrow$ 88% of marked price = selling price

$$\Rightarrow \frac{88}{100} \times x = 110$$

$$\Rightarrow x = \frac{110 \times 100}{88}$$

$$\Rightarrow x = 125$$

So, marked price of an article = Rs. 125

If selling price is equal to marked price

$$\text{then percentage of profit} = \frac{125 - 100}{100} \times 100 = 25\%$$

So, the percentage of profit is 25%.

28. Answer: b

Explanation:

The correct answer is **option 2**.

Given:

A trader sold a bicycle at a profit of 10%.

Calculation:

Let assume cost price = Rs. x

After profit of 10%, selling price = 110% of cost price

= 110% of x

If he had cost price less than 10%

New cost price = 90% of x

Now he would gain 25%, then new selling price = 125% of 90% of x

The difference between new selling price and earlier selling price is Rs. 12

$$\Rightarrow 125\% \text{ of } 90\% \text{ of } x - 110\% \text{ of } x = 12$$

$$\Rightarrow 1.25 \times 0.90 \times x - 1.10 \times x = 12$$

$$\Rightarrow 1.125x - 1.100x = 12$$

$$\Rightarrow 0.025x = 12$$

$$\Rightarrow x = \frac{12}{0.025}$$

$$\Rightarrow x = 480$$

So, the cost price of the bicycle is Rs. 480.

29. Answer: b

Explanation:

The correct answer is **option 2**

Given: Your Personal Exams Guide

A businessman blends Assam tea costing Rs.70 per kg with Darjeeling tea costing Rs.110 per kg in the ratio 3 : 1

Calculation:

Let assume cost price of the mixture = Rs X per kg

Let the proportion of Assam tea costing Rs. 70 and Darjeeling tea costing Rs. 110 in the mixture is $3c$ and c .

$$\Rightarrow \frac{70 \times 3c + 110 \times c}{3c + c} = X$$

$$\Rightarrow X = \frac{320}{4}$$

$$\Rightarrow X = \text{Rs. } 80 \text{ per kg}$$

To make a profit of $12\frac{1}{2}\%$

The selling price = $112\frac{1}{2}\%$ of cost price

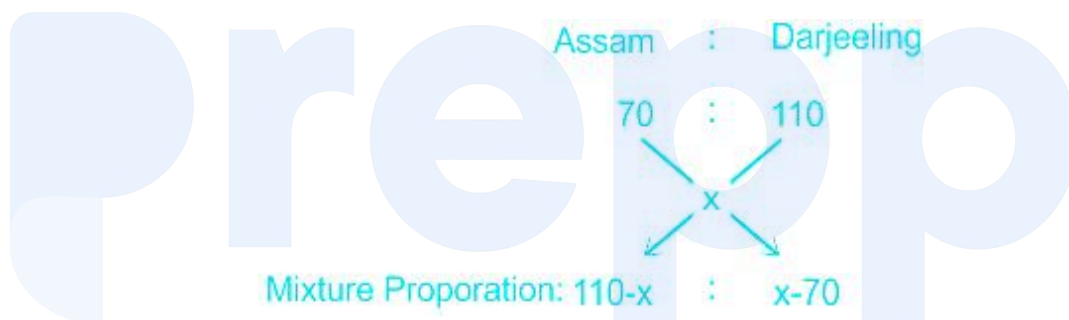
$$\text{The selling price} = \frac{225}{200} \times 80$$

The selling price = Rs. 90 per kg

★ Alternate Method

Let assume cost price of the mixture = Rs X per kg

So, the ratio of mixture between Assam and Darjeeling tea



The ratio of Assam and Darjeeling tea in the mixture is 3 : 1

$$\Rightarrow \frac{110 - X}{X - 70} = \frac{3}{1}$$

$$\Rightarrow 110 - X = 3(X - 70)$$

$$\Rightarrow 110 - X = 3X - 210$$

$$\Rightarrow 4X = 320$$

$$\Rightarrow X = 80$$

So, the cost price of the mixture is Rs. 80 per kg.

To have a profit of $12\frac{1}{2}\%$, the selling price = $112\frac{1}{2}\%$ of cost price

$$= \frac{225}{200} \times 80$$

= Rs. 90 per kg

So, the selling price should be Rs. 90 per kg to have a profit of $12\frac{1}{2}\%$.

30. Answer: c

Explanation:

The correct answer is **option 3**.

Given:

There is a loss of 11% if an article is sold at Rs.178.

Concept Used: $Cost\ price = \frac{100 \times Selling\ price}{100 - Loss}$

Calculation:

$$\Rightarrow Cost\ price = \frac{100 \times 178}{100 - 11}$$

$$\Rightarrow Cost\ price = \frac{17800}{89}$$

$$\Rightarrow Cost\ price = Rs\ 200$$

To make a profit of 11%, selling price = 111% of cost price

$$= \frac{111}{100} \times 200$$

$$= Rs. 222$$

So, the selling price should be Rs. 222 to make a profit of 11%.

31. Answer: c

Explanation:

The correct answer is **option 3**.

Given:

A retailer getting a discount of 20% on the marked price sells an article at the marked price.

Calculation:

Let assume marked price of an article = 100

After 20% discount on the marked price,

Cost price for the retailer = 80% of Marked price

= 80% of 100

= 80

So, cost price = Rs. 80

Now the retailer is selling at the marked price,

So, profit of the retailer = $\frac{100 - 80}{80} \times 100$

= $\frac{20}{80} \times 100$

= 25%

So, the percentage of profit of the retailer is 25%.

32. Answer: c

Explanation:

The correct answer is **option 3**.

Given:

A fruit seller purchased banana at Rs.30 per dozen and sold each pair at Rs.7.

Concept used: One dozen = 12 units; one pair = 2 units

Calculation:

The price of one dozen banana is Rs. 30

⇒ 12 banana price = Rs. 30

⇒ 6 pairs of banana price = $6 \times 7 = \text{Rs. } 42$

So, the cost price = Rs. 30

And selling price = Rs. 42

Profit or loss percentage = $\frac{42 - 30}{30} \times 100$

= $\frac{12}{30} \times 100$

= 40%

So the percentage of profit is 40%.

33. Answer: c

Explanation:

The correct answer is **option 3**.

Given:

Selling a radio at Rs.363.75 there was a loss of 3% of a radio seller.

Concept Used: $\text{Cost price} = \frac{100 \times \text{Selling price}}{100 - \text{loss}}$

Calculation:

⇒ $\text{Cost price} = \frac{100 \times 363.75}{100 - 3}$

.....

$$\Rightarrow \text{Cost price} = \frac{100 \times 363.75}{97}$$

$$\Rightarrow \text{Cost price} = \text{Rs. } 375$$

To make a profit of 10%,

Selling price = 110% of cost price

$$= \frac{110}{100} \times 375$$

$$= 412.5$$

So, the selling price should be Rs. 412.5 to make a profit of 10%.

34. Answer: b

Explanation:

The correct answer is option 2.

Given:

A businessman purchased 35 kg of pulse at Rs.525 and sold each kg at the rate Rs.18.

Calculation:

35 kg of pulse cost = Rs. 525

$$1 \text{ kg of pulse cost} = \frac{525}{35} = \text{Rs. } 15$$

So, cost price of 1 kg pulse = Rs. 15 per kg

While selling price of 1 kg = Rs. 18 per kg

$$\text{So, percentage of profit} = \frac{18 - 15}{15} \times 100$$

$$= \frac{3}{15} \times 100$$

$$= 20\%$$

So, the percentage of profit is 20%.

35. Answer: d

Explanation:

The correct answer is **option 4**.

Given:

A hawker purchases some mangoes at the rate of 9 mangoes for Rs.5 and sells them at Rs.8 per dozen.

Concept used: $\text{profit or loss} = \frac{SP - CP}{CP} \times 100$

Calculation:

The cost price of one mango = Rs. $\frac{5}{9}$

The selling price of one mango = Rs. $\frac{8}{12}$

So, the percentage of profit or loss = $\frac{\frac{8}{12} - \frac{5}{9}}{\frac{5}{9}} \times 100$

= $\frac{\frac{4}{36}}{\frac{5}{9}} \times 100$

= 20%

So, the percentage of profit is 20%.

36. Answer: b

Explanation:

The correct answer is **option 2**.

Given:

A businessman sold an article at a loss of 15%.

Calculation:

The difference between 15% loss and 10% profit is Rs. 100

That means $10\% - (-15)\% = 25\%$

So, 25% is equivalent to Rs 100

100% percent is equivalent = $\frac{100}{25} \times 100 = \text{Rs } 400$

The cost price of an article = Rs. 400

After loss of 15%, selling price = 85% of cost price

= 85% of 400

= 85×4

= Rs. 340

So, the selling price of an article is Rs. 340.

Your Personal Exams Guide

37. Answer: d

Explanation:

The correct answer is **option 4**.

Given:

The Assam tea at Rs.40 per kg and Darjeeling tea at Rs.65 per kg be mixed,

And sold at Rs.60 per kg to make in overall profit of 25%.

Concept used: $CP = \frac{100 \times SP}{100 + Profit}$

Calculation:

$$\text{The cost price of the mixture} = \frac{100 \times 60}{125}$$

$$= 48$$

So, the cost price of the mixture = Rs. 48

Let assume the proportion of Assam tea and Darjeeling tea in the mixture is X and Y.

$$\Rightarrow \frac{40 \times X + 65 \times Y}{X + Y} = 48$$

$$\Rightarrow 40X + 65Y = 48X + 48Y$$

$$\Rightarrow 17Y = 8X$$

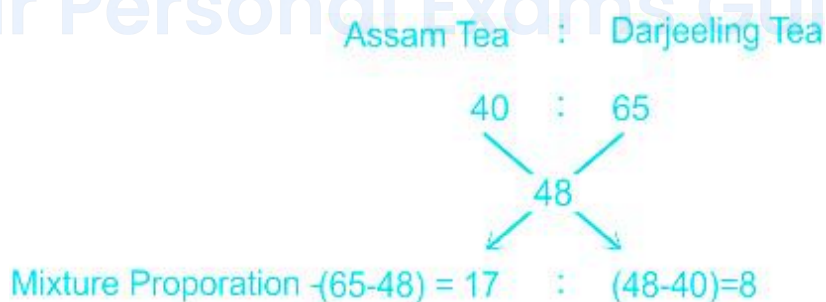
$$\Rightarrow \frac{X}{Y} = \frac{17}{8}$$

★ Alternate Method

$$\text{The cost price of the mixture} = \frac{100 \times 60}{125}$$

$$= 48$$

So, the cost price of the mixture = Rs. 48



So, the ratio of Assam tea to Darjeeling tea should be 17 : 8.

38. Answer: b

Explanation:

The correct answer is **option 2**.

Given:

A milkman mixed water with 60 litres of pure milk and sold the mixture at the cost price thereby made a profit of 25%.

Calculation:

The profit is 25%.

The mixture is sold at the cost price of milk.

That means 25% profit is the quantity of the water.

So, water is added by milkman = 25% of milk quantity

$$= \frac{25}{100} \times 60$$

$$= 15$$

So, the quantity of water in the mixture is 15 litres.

39. Answer: d

Explanation:

The correct answer is **option 4**.

Given:

A Shoe maker sold two pairs of shoes at the same price.

In the first pair he makes a profit of 20% and in the other pair he makes a loss of 20%.

Concept Used:

When two article sold at same price while one article sold at a profit of x% and another article at a loss of x%.

Then there is always loss in the whole business,

$$\text{Loss percentage} = \left(\frac{x}{10}\right)^2$$

Calculation:

$$\Rightarrow \text{Percentage of loss} = \left(\frac{20}{10}\right)^2 = 4\%$$

So, the percentage of loss in the whole business is 4%.

40. Answer: b

Explanation:

The correct answer is **option 2**.

Given:

Paban incurred 10% loss by selling lemon at Rs.18 per dozen.

Calculation:

Let assume cost price per dozen = Rs. X

After incurred 10%, selling price = 90% of cost price

$$\Rightarrow 18 = 90\% \text{ of } X$$

$$\Rightarrow X = \frac{18 \times 100}{90}$$

$$\Rightarrow X = 20$$

So, the cost price of lemon = Rs. 20 per dozen

To make a profit of 10%,

Selling price per dozen = 110% of Cost price

$$\text{Selling price per dozen} = \frac{110}{100} \times 20$$

= Rs. 22 per dozen

So, the selling price should be Rs. 22 per dozen to make a profit of 10%.

41. Answer: b

Explanation:

The correct answer is **option 2**.

Given:

There is 25% profit if an article is sold at Rs.150.

Concept used: $CP = \frac{100 \times SP}{100 + Profit}$

Calculation:

The cost price of an article = $\frac{100 \times 150}{100 + 25}$
= 120

So, cost price of an article = Rs. 120

To make 30% profit, selling price = 130% of cost price

= 130% x 120

= 156

So, new selling price = Rs 156

Percentage increase in the selling price = $\frac{156 - 150}{150} \times 100$

= $\frac{6}{150} \times 100$

= 4%

So, the selling price should be increased by 4% so that there will be 30% profit.

42. Answer: a

Explanation:

The correct answer is **option 1**.

Given:

A sum of money double itself in 8 years at some rate of interest.

Concept Used: $SI = \frac{P \times R \times T}{100}$

Calculation:

Let assume sum of money = P

To get the sum double, interest should be P.

$$\Rightarrow P = \frac{P \times R \times 8}{100}$$

$$\Rightarrow R = \frac{100}{8} \%$$

To get the sum triple, Interest should be 2P.

$$\Rightarrow 2P = \frac{P \times 100 \times T}{8 \times 100}$$

$$\Rightarrow T = 16 \text{ years}$$

So, the sum would be triple itself in 16 years.

43. Answer: c

Explanation:

The correct answer is **option 3**.

Given:

A sum of amounts will be doubled in $7\frac{1}{2}$ years.

Concept used: $SI = \frac{P \times R \times T}{100}$

Calculation:

Let assume sum = P

Rate of interest = R

A sum of amount will be doubled if interest is P.

$$\Rightarrow P = \frac{P \times R \times 15}{100 \times 2}$$

$$\Rightarrow R = \frac{200}{15}$$

$$\Rightarrow R = 13\frac{1}{3}\%$$

So, the rate of interest is $13\frac{1}{3}\%$.

44. Answer: b

Explanation:

The correct answer is option **option 2**.

Given:

A sum amounts to Rs.1180 in 3 years and to Rs.1300 in 5 years.

Concept Used: $SI = \frac{P \times R \times T}{100}$

Calculation:

$\Rightarrow$ Let assume a sum = P

$$\Rightarrow \text{Interest in 3 years} = 1180 - P$$

$$\Rightarrow \text{Interest in 5 years} = 1300 - P$$

$$\Rightarrow 1180 - P = \frac{P \times R \times 3}{100}$$

$$\Rightarrow \frac{1180 - P}{3} = \frac{P \times R}{100} \text{ -----(1)}$$

$$\Rightarrow 1300 - P = \frac{P \times R \times 5}{100} \text{ -----(2)}$$

Put the value from equation (1) to equation (2)

$$\Rightarrow 1300 - P = \frac{(1180 - P)}{3} \times 5$$

$$\Rightarrow 3(1300 - P) = 5(1180 - P)$$

$$\Rightarrow 3900 - 3P = 5900 - 5P$$

$$\Rightarrow 2P = 2000$$

$$\Rightarrow P = 1000$$

Put the value of P in equation (1)

$$\Rightarrow \frac{1180 - 1000}{3} = \frac{1000 \times R}{100}$$

$$\Rightarrow 60 = 10 \times R$$

$$\Rightarrow R = 6\%$$

So, the rate of interest is 6%.

45. Answer: d

Explanation:

The correct answer is **option 4**

Given:

A certain sum amounts to Rs.17,200 at 12% simple interest per annum in a period

In same period which Rs.22,080 amounts to Rs.37,536 at 14% simple interest per annum.

Concept used: $T = \frac{100 \times SI}{P \times R}$

Calculation:

Let assume the sum = P

And interest = 17200 - P

$$\Rightarrow \frac{100 \times (17200 - P)}{P \times 12} = \frac{100 \times (37536 - 22080)}{22080 \times 14}$$

$$\Rightarrow 17200 - P = \frac{12P \times 15456}{22080 \times 14}$$

$$\Rightarrow 17200 - P = 0.6P$$

$$\Rightarrow 1.6P = 17200$$

$$\Rightarrow P = \frac{17200}{1.6}$$

$$\Rightarrow P = 10,750$$

So, the sum of money is Rs, 10,750.

46. Answer: c

Explanation:

The correct answer is **option 3**.

Given:

Ten copies of the book can be bought for a certain sum of money payable at the end of 2 years.

Concept used: $SI = \frac{P \times R \times T}{100}$

Calculation:

Let assume the cost price of one copy = Rs. 1

The cost price of 12 copies = $1 \times 12 = 12$

The cost price of 10 copies = $10 \times 1 = 10$

If the sum is paid Rs. 12 after the end of two year

then amount of interest = $12 - 10 = 2$

$$\Rightarrow 2 = \frac{10 \times R \times 2}{100}$$

$$\Rightarrow R = 10\%$$

So, the rate of interest is 10%.

47. Answer: a

Explanation:

The correct answer is **option 1**.

Given:

Sita deposited some money in a bank at the rate of simple interest of 5.25% per annum.

After 2 years, she has got Rs.840 as interest

Concept Used: $SI = \frac{P \times R \times T}{100}$

Calculation:

$\Rightarrow$ Let assume the money Sita deposited in the bank is P.

$$\Rightarrow 840 = \frac{P \times 5.25 \times 2}{100}$$

$$\Rightarrow P = \frac{840 \times 100}{10.50}$$

$$\Rightarrow P = \text{Rs. } 8000$$

So, Sita deposited the money in the bank is Rs. 8000.

48. Answer: c

Explanation:

The correct answer is **option 3**.

Given:

Sum = Rs. 600

Rate = 8%

Simple interest = Rs. 168

Concept Used: $SI = \frac{P \times R \times T}{100}$

Calculation:

$$\Rightarrow 168 = \frac{600 \times 8 \times T}{100}$$

$$\Rightarrow T = \frac{168}{48}$$

$$\Rightarrow T = 3\frac{1}{2} \text{ years}$$

So, the time will be $3\frac{1}{2}$ years.

49. Answer: d

Explanation:

The correct answer is **option 4**.

Given:

if a principal becomes the amount of Rs.7100 in 7 years and of Rs.6200 in 4 years,

Concept Used: $SI = \frac{P \times R \times T}{100}$

Calculation:

Let assume principal sum = P

$$\Rightarrow 6200 - P = \frac{P \times R \times 4}{100}$$

$$\Rightarrow \frac{(6200 - P)}{4} = \frac{P \times R}{100} \text{ ----- (1)}$$

$$\Rightarrow 7100 - P = \frac{P \times R \times 7}{100} \text{ ----- (2)}$$

Put the value from equation (1) to equation (2)

$$\Rightarrow 7100 - P = \frac{6200 - P}{4} \times 7$$

$$\Rightarrow 4(7100 - P) = 7(6200 - P)$$

$$\Rightarrow 28400 = 4P = 43400 - 7P$$

$$\Rightarrow 3P = 43400 - 28400$$

$$\Rightarrow 3P = 15000$$

$$\Rightarrow P = 5000$$

So, the principal amount of sum will be Rs. 5000.

50. Answer: a

Explanation:

The correct answer is **option 1**.

Given:

A weaver cooperative society takes a loan of Rs.15,000 for buying a power loom.

After 5 years, the society has to repay Rs.22,125 for recovering the loan.

Concept Used: $SI = \frac{P \times R \times T}{100}$

Calculation:

Sum = Rs. 15000

Simple Interest = 22125 - 15000 = Rs. 7125

Time = 5

$$\Rightarrow 7125 = \frac{15000 \times R \times 5}{100}$$

$$\Rightarrow R = \frac{7125}{750}$$

$$\Rightarrow R = 9\frac{1}{2}\%$$

So, the rate of simple interest is $9\frac{1}{2}\%$.

51. Answer: c

Explanation:

The correct answer is **option 3**.

Given:

Simple interest = Rs. x

Interest rate = x%

Time = x years

Concept Used: $SI = \frac{P \times R \times T}{100}$

Calculation:

⇒ Let assume principal amount = P

$$\Rightarrow x = \frac{P \times x \times x}{100}$$

$$\Rightarrow P = \frac{100}{x}$$

So, the principal amount will be Rs. $\frac{100}{x}$.

52. Answer: b

Explanation:

The correct answer is **option 2**.

Given:

If a principal becomes twice of its amount in 10 years.

Concept Used: $SI = \frac{P \times R \times T}{100}$

Calculation:

Let assume principal = P

If a principal becomes twice, then interest = P

$$\Rightarrow P = \frac{P \times R \times 10}{100}$$

$$\Rightarrow R = 10\%$$

So, the rate of interest is 10%.

53. Answer: c

Explanation:

The correct answer is **option 3**.

Given:

Monthly interest is Rs.1 having the rate of simple interest of 5% per annum.

Concept Used: $SI = \frac{P \times R \times T}{100}$

Calculation:

Let assume the principal = P

If monthly interest is Rs. 1

So, the yearly interest will be $12 \times 1 = \text{Rs.}12$

$$\Rightarrow 12 = \frac{P \times 5 \times 1}{100}$$

$$\Rightarrow P = 12 \times 20$$

$$\Rightarrow P = \text{Rs. } 240$$

So, the principle amount will be Rs. 240.

54. Answer: d

Explanation:

The correct answer is **option 4**.

Given:

The amount becomes twice of the principal having the rate of simple interest $6\frac{1}{4}\%$ per annum.

Concept Used: $SI = \frac{P \times R \times T}{100}$

Calculation:

Let assume principal = P

The amount becomes twice that means Interest will be P.

$$\Rightarrow P = \frac{P \times \frac{25}{4} \times T}{100}$$

$$\Rightarrow T = 16 \text{ years}$$

So, the required time is 16 years.

55. Answer: b

Explanation:

The correct answer is **option 2**.

Given: Your Personal Exams Guide

The ratio of the principal and the amount (principal along with interest) in 1 year is 8 : 9.

Concept Used: $SI = \frac{P \times R \times T}{100}$

Calculation:

Let assume principal = 8X

While amount (principal along with interest) = 9X

So, Simple interest = X

$$\Rightarrow X = \frac{8X \times R \times 1}{100}$$

$$\Rightarrow 8R = 100$$

$$\Rightarrow R = \frac{100}{8}$$

$$\Rightarrow R = 12\frac{1}{2}\%$$

So, the rate of interest is $12\frac{1}{2}\%$.

56. Answer: b

Explanation:

The correct answer is **option 2**.

Given:

10 men can do a piece of work in 18 days.

Concept Used: $\frac{\text{Manpower} \times \text{days}}{\text{Work}} = \text{Constant}$

Calculation:

$$\Rightarrow \frac{10 \times 18}{1} = \frac{12 \times D}{1}$$

$$\Rightarrow D = 15 \text{ days}$$

So, 12 men can do a piece of work in 15 days.

57. Answer: d

Explanation:

The correct answer is **option 4**.

Given:

Present price of machine = $2p$

If price of machine decreases by $2r\%$ in each year

Concept Used: $P_{after} = P_{present} \left(1 - \frac{R}{100}\right)^T$

Calculation:

$$\Rightarrow P_{after} = 2p \left(1 - \frac{2r}{100}\right)^{2n}$$

$$\Rightarrow P_{after\ 2\ year} = 2p \left(1 - \frac{r}{50}\right)^{2n}$$

So, the price of machine after 2 years will be $P_{after\ 2\ year} = 2p \left(1 - \frac{r}{50}\right)^{2n}$.

58. Answer: a

Explanation:

The correct answer is **option 1**.

Given:

A person deposited Rs.100 in a bank and got the amount Rs.121 for two years.

Concept Used: $Amount = P \left(1 + \frac{R}{100}\right)^T$

Calculation:

$$\Rightarrow 121 = 100 \left(1 + \frac{R}{100}\right)^2$$

$$\Rightarrow \frac{121}{100} = \left(1 + \frac{R}{100}\right)^2$$

$$\Rightarrow 1 + \frac{R}{100} = \frac{11}{10}$$

$$\Rightarrow \frac{R}{100} = \frac{1}{10}$$

$$\Rightarrow R = 10\%$$

So, the rate of interest is 10%.

59. Answer: c

Explanation:

The correct answer is **option 3**.

Given: The amount on Rs.400 for 2 years becomes Rs.441.

Concept Used: $Amount = P(1 + \frac{R}{100})^T$

Calculation:

$$\Rightarrow 441 = 400(1 + \frac{R}{100})^2$$

$$\Rightarrow \frac{441}{400} = (1 + \frac{R}{100})^2$$

$$\Rightarrow \frac{21}{20} = 1 + \frac{R}{100}$$

$$\Rightarrow \frac{R}{100} = \frac{1}{20}$$

$$\Rightarrow R = 5\%$$

So, the rate of compound interest will be 5%.

60. Answer: c

Explanation:

The correct answer is **option 3**.

Given: If a sum of money doubles itself at the fixed rate of compound interest per annum in n years

Concept Used: $Amount = P(1 + \frac{R}{100})^T$

Calculation:

Let assume sum of money = P

Amount = 2P

$$\Rightarrow 2P = P\left(1 + \frac{R}{100}\right)^n$$

$$\Rightarrow 2 = \left(1 + \frac{R}{100}\right)^n \text{ ----- (1)}$$

To become four times of a sum of money

$\Rightarrow$ Amount = 4P

$$\Rightarrow 4P = P\left(1 + \frac{R}{100}\right)^T$$

$$\Rightarrow (2)^2 = \left(1 + \frac{R}{100}\right)^T \text{ ----- (2)}$$

From equation (1) and (2)

$$\left(1 + \frac{R}{100}\right)^{2n} = \left(1 + \frac{R}{100}\right)^T$$

T = 2n years

So, In 2n years sum of money will become four times.

61. Answer: a

Explanation:

Given:

Compound interest, CI = Rs.615

Rate of interest, r = 5% compound interest per annum

Time, t = 2 years

Formula used:

For compound interest

$A = P(1 + \frac{r}{100})^t$, where A = amount, P = principal, t = time, r = rate of interest

Calculation:

Using formula

$$A = P(1 + \frac{r}{100})^t$$

$$\Rightarrow 615 + P = P(1 + \frac{5}{100})^2$$

$$\Rightarrow 615 = P(\frac{21}{20})^2 - P$$

$$\Rightarrow 615 = \frac{(441 - 400)P}{400}$$

$$\Rightarrow P = 6000$$

$\therefore$ The principal amount is Rs. 6000.

62. Answer: c

Explanation:

Given:

Population increases at the rate r%.

Population after n years = p

Formula used:

Population increased is given by

$$A = P \left(1 + \frac{r}{100}\right)^t$$

Calculation:

Let population n years before was x.

According to the question population after n years is p .

$\therefore$ Total time span = n

$\therefore$ According to question

$$p = x \left(1 + \frac{r}{100}\right)^n$$

$$\Rightarrow x = \frac{p}{\left(1 + \frac{r}{100}\right)^n}$$

$$\Rightarrow x = p \left(1 + \frac{r}{100}\right)^{-n}$$

$\therefore$ Population n years before was $p \left(1 + \frac{r}{100}\right)^{-n}$.

63. Answer: c

Explanation:

Given:

Investment of A = Rs. 6000 for 5 months.

Investment of B = Rs. 5000 for x months.

Profit of a and b is equal.

Concept used:

Ratio of investment = Ratio of profits.

Calculation:

Since the profit is the same, the ratio of investments is 1:1.

Total investment by A = Rs. 6000×5

Total investment by B = Rs. $5000 \times x$

$$6000 \times 5 = 5000 \times x$$

$$\Rightarrow x = 6$$

$\therefore$ After 6 months both have equal profit.

64. Answer: a

Explanation:

Given:

Investment of first friend = Rs. 16000

Investment of second friend = Rs. 24000

Total profit = Rs. 3375

Concept used:

Ratio of investments = Ratio of profits.

Calculation:

Investment of first friend = Rs. 16000

Investment of second friend = Rs. 24000

Ratio of investments = 16000 : 24000 = 2 : 3.

$\therefore$ Ratio of their profit = 2 : 3

Let the profit of first friend be $2x$ and second friend be $3x$.

Total profit = Rs. 3375

According to question

$$2x + 3x = 3375$$

$$\Rightarrow 5x = 3375$$

$$\Rightarrow x = 675$$

Profit of first friend = $2x$ = Rs. 1350

Profit of second friend = $3x$ Rs. 2025

Hence, their profits are Rs. 1350 and Rs. 2025.

65. Answer: b

Explanation:

Given:

Three friends P, Q and R started a business with the capital of Rs.15,000, Rs.10,000 and Rs.25,000.

Loss suffered by them is Rs. 2500.

Concept used:

Ratio of investment = Ratio of profits or losses.

Calculation:

Investments of three friends are Rs.15,000, Rs.10,000 and Rs.25,000.

Ratio of investments = $15000 : 10000 : 25000 = 3 : 2 : 5$

$\therefore$ Ratio of loss suffered = $3 : 2 : 5$

Let the loss of P be $3x$, Q be $2x$ and R be $5x$.

Total loss suffered = Rs. 2500

According to question

$$3x + 2x + 5x = 2500$$

$$\Rightarrow 10x = 2500$$

$$\Rightarrow x = 250$$

$$\text{Loss of P} = 3x = \text{Rs. } 750$$

$$\text{Loss of Q} = 2x = \text{Rs. } 500$$

$$\text{Loss of R} = 5x = \text{Rs. } 1250$$

Hence, their losses are Rs. 750, Rs. 500 and Rs. 1250.

66. Answer: c

Explanation:

Given:

Starting amounts of X and Y are Rs.24,000 and Rs.30,000.

After 5 months A invests Rs.12,000 more in the business.

Profit = Rs. 14,030.

Concept used:

Ratio of investment is same as ratio of loss or profit.

Calculation:

Gross investment of X for one year

$$= 24000 \times 12 + 12000 \times 7 = \text{Rs. } 372000$$

Gross investment of Y for one year

$$= 30000 \times 12 = \text{Rs. } 360000$$

$$\text{Ratio of their investment} = 372000 : 360000 = 31 : 30$$

$$\therefore \text{ratio of profit} = 31 : 30$$

Let the profit of X be $31x$ and Y be $30x$.

Total profit = Rs. 14030

According to question

$$31x + 30x = 14030$$

$$\Rightarrow 61x = 14030$$

$$\Rightarrow x = 230$$

Profit of X = $31x$ = Rs. 7130.

Profit of Y = $30x$ = Rs. 6900.

Hence, their profits are Rs. 7130 and Rs. 6900.

67. Answer: b

Explanation:

Given:

X and Y Jointly start a business with Rs.1200 and Rs.800.

At the end of the year Y gets Rs.120 as profit.

Concept used:

Ratio of investment is same as ratio of loss or profit.

Calculation:

Investment of X = Rs. 1200

Investment of Y = Rs. 800

Ratio of investments = $1200 : 800 = 3 : 2$

$\therefore$ Ratio of profit = 3 : 2

Let the profit of X be $3x$ and Y be $2x$.

Y gets Rs. 120 as profit.

According to question

$$2x = 120$$

$$\Rightarrow x = 60$$

$\therefore$ Profit of X = $3x$ = Rs. 180

Hence, as a part of profit X will get Rs. 180.

68. Answer: d

Explanation:

Given:

X, Y and Z start a business with Rs.7200.

After 1 year X, Y and Z get Rs.60, Rs.90 and Rs.120 as profit.

Concept used:

Ratio of investment is same as ratio of profit or loss.

Calculation:

Profits of X, Y and Z are Rs.60, Rs.90 and Rs.120.

Ratio of profits = $60 : 90 : 120 = 2 : 3 : 4$

$\therefore$ Ratio of investment = $2 : 3 : 4$

Total invested amount = Rs. 7200

Let individual investments made by X, Y and Z be $2x$, $3x$, and $4x$ respectively.

$$\therefore Z's \text{ investment} = 7200 \times \frac{4x}{9x} = Rs. 3200$$

Hence, Z invests Rs. 3200.

69. Answer: d

Explanation:

Given:

Mr. X invests Rs.600 for 5 months and Y invests Rs.500 for 9 months in a business.

Concept used:

Ratio of investment is same as ratio of profit or loss.

Calculation:

$$\text{Gross investment of Mr. X} = Rs. 600 \times 5 = Rs. 3000$$

$$\text{Gross investment of Mr. Y} = Rs. 500 \times 9 = Rs. 4500$$

$$\text{Ratio of their investments} = 3000 : 4500 = 2 : 3$$

$$\therefore \text{Ratio of their profit} = 2 : 3$$

Hence, part of the profit will be distributed among them in the ratio 2 : 3.

70. Answer: a

Explanation:

Given:

$$\text{Total profit} = Rs. 2000$$

Capital of A = Rs. 6000

Profit of A = Rs. 1200

Concept used:

The ratio of investments is same as the ratio of profit or loss.

Calculation:

Total profit = Rs. 2000

Profit of A = Rs. 1200

$\therefore$ Profit of B = Rs. 800

Ratio of profits = $1200 : 800 = 3 : 2$

Capital of A = Rs. 6000

Let capital of B = Rs. x

According to question

$$\frac{6000}{x} = \frac{3}{2}$$

$$\Rightarrow x = 4000$$

$\therefore$ The capital of B is Rs. 4000.

71. Answer: c

Explanation:

Given:

Investment of X = Rs. 6000 for 9 months.

Investment of Y = Rs. 8000 for some months

Profit of X = Rs. 1800

profit of Y = Rs. 1600

Concept used:

Ratio of investments is same as ratio of profits or losses.

Calculation:

Let Y invests for x months.

Gross investement of X = Rs. 6000×9 = Rs. 54000

Gross investment of Y = Rs. $8000x$

Profit of X = Rs. 1800

profit of Y = Rs. 1600

Ratio of profit = $1800 : 1600 = 9 : 8$

$\therefore$ Ratio of investments = $9 : 8$

According to question

$$\frac{54000}{8000x} = \frac{9}{8}$$

$$\Rightarrow x = 6$$

Hence, Y invests for 6 months.

72. Answer: b

Explanation:

Given:

In a joint business the capitals of A and B are in the ratio $3 : 4$ and the capitals of B and C are in the ratio $6 : 5$.

A gets a profit of Rs.450.

Concept used:

Ratio of investments is same as ratio of profits or losses.

Calculation:

Ratio of capitals of A and B = 3 : 4

Ratio of capitals of B and C = 6 : 5

∴ Ratio of capitals of A, B and C = 9 : 12 : 10

∴ Ratio of capitals A and C = 9 : 10

∴ Ratio of profits of A and C = 9 : 10

Let the profit of C be Rs. x.

Profit of A = Rs. 450

According to question

$$\frac{450}{x} = \frac{9}{10}$$

$$\Rightarrow x = 500$$

∴ Profit of C is Rs. 500.

73. Answer: d

Explanation:

Given:

In a joint business, the capitals of P, O and R are in the ratio $\frac{1}{4} : \frac{1}{3} : \frac{1}{2}$.

At the end of the year they make a profit of Rs.3900.

Concept used:

Ratio of investments is same as the ratio of profits or losses.

Calculation:

The capitals of P, O and R are in the ratio $\frac{1}{4} : \frac{1}{3} : \frac{1}{2} = 3 : 4 : 6$.

$\therefore$ The ratio of profit = 3 : 4 : 6

Let the profits of P, O and R be 3x, 4x and 6x respectively.

Total profit = Rs. 3900

$\therefore$ Profit of C = $3900 \times \frac{6x}{13x} = \text{Rs.}1800$

Hence, C will get Rs. 1800 as profit.

74. Answer: c

Explanation:

Given:

M and N can finish a work in 15 and 20 days respectively.

Concept used:

The ratio of efficiency is same as the ratio of income.

Calculation:

M can finish the work in 15 days.

$\therefore$ The efficiency of A = $\frac{1}{15}$

N can finish the work in 20 days.

$\therefore$ Efficiency of B = $\frac{1}{20}$

$$\therefore \text{Ratio of efficiency of M and N} = \frac{1}{15} : \frac{1}{20} = 4 : 3$$

$\therefore$ The ratio of their income is 4 : 3.

75. Answer: b

Explanation:

Given:

36 bighas of land may be irrigated in 16 days by a well-pump working 15 hours a day.

Formula used:

$$\frac{M_1 \times T_1 \times D_1}{W_1} = \frac{M_2 \times T_2 \times D_2}{W_2}$$

Calculation:

$$W_1 = 36, T_1 = 15 \text{ hours}, D_1 = 16 \text{ days}$$

$$W_2 = 42, T_2 = 10 \text{ hours}, D_2 = D \text{ days}$$

Using formula

$$\frac{M_1 \times T_1 \times D_1}{W_1} = \frac{M_2 \times T_2 \times D_2}{W_2}$$

$$\Rightarrow \frac{15 \times 16}{36} = \frac{10 \times D}{42}$$

$$\Rightarrow D = 28$$

$\therefore$ 42 bighas land will be irrigated by pump in 28 days.

76. Answer: c

Explanation:

The correct answer is **option 3**

Given:

In a business P invests Rs.12,000. After some days Q joins the business and invests Rs.16,000 in it.

9 months after Q joins, P and Q get same profit.

Concept Used: When time varies, profit ratio is the multiple of sum and time.

Calculation:

Let assume Q invested after t month of P's invested.

So, total time for P = $t + 9$ months

Total time for Q = 9 months

Ratio of profit for P and Q is same .

$$\Rightarrow P : Q$$

$$\Rightarrow 12000(t + 9) : 16000 \times 9$$

$$\Rightarrow 3t + 27 : 36$$

Profit is same for P and Q

$$\Rightarrow 3t + 27 = 36$$

$$\Rightarrow 3t = 9$$

$$\Rightarrow t = 3 \text{ months}$$

P's invested money for the time = $t + 9 = 3 + 9 = 12$ months.

So, P's money was invested in the business for 12 months.

77. Answer: a

Explanation:

The correct answer is **option 1**.

Given:

P starts a business with capital of Rs.5000.

After 3 months Q joins in the business with capital Rs.6000 and

After 5 months R invests Rs.8000 in the business.

At the end of the year of the profit is Rs.3400.

Concept Used: Profit ratio is the multiple of capital and time.

Calculation:

P's invested a capital for time = 12 months

Q's invested a capital for time = 9 months

R's invested a capital for time = 7 months

Now, ratio of their profit share

P : Q : R

5000 x 12 : 6000 x 9 : 8000 x 7

60 : 54 : 56

30 : 27 : 28

Total sum of ratio = 30 + 27 + 28 = 85

So, profit share of P's = $\frac{30}{85} \times 3400 = \text{Rs. } 1200$

Q's profit share = $\frac{27}{85} \times 3400 = \text{Rs. } 1080$

R's profit share = $\frac{28}{85} \times 3400 = \text{Rs. } 1120$

78. Answer: b

Explanation:

The correct answer is **option 2**.

Given:

S and T start a business with Rs.2400 and Rs.1600.

After one year if S suffers a loss of Rs.45 in the business.

Calculation:

Let assume the loss at the end of year = L

Ratio of their profit

S : T

2400 : 1600

3 : 2

Total sum of ratio = $3 + 2 = 5$

S share of loss = $\frac{3}{5} \times L = 45$

$\Rightarrow L = \text{Rs. } 75$

T share of loss = $75 - 45 = \text{Rs. } 30$

So, the loss of T is Rs. 30.

79. Answer: a

Explanation:

The correct answer is **option 1**.

Given:

P invests Rs.500 for 9 months and Q invests some money in the business for 6 months.

The total profit in the business is Rs.69 and Q gets a profit of Rs.46

Calculation:

Let assume Q invested = A

Ratio of their profit

P : Q

$500 \times 9 : A \times 6$

$1500 : 2A$

Total sum of ratio = $1500 + 2A$

Q's share of profit = $\frac{2A}{1500 + 2A} \times 69 = 46$

$\Rightarrow 3A = 1500 + 2A$

$\Rightarrow A = \text{Rs. } 1500$

So, the capital of Q in the business is Rs.1500.

80. Answer: c

Explanation:

The correct answer is **option 3**.

Given:

In a joint business the ratio of the capitals of three partners is 5 : 7 : 9.

If the profit in the business is Rs.420

Calculation:

Total sum of ratio = $5 + 7 + 9 = 21$

third partner share of profit = $\frac{9}{21} \times 420$

= Rs.180

So, the third partner will get Rs.180.

81. Answer: a

Explanation:

The correct answer is **option 1**.

Given:

A and B are equal partners. They admit C and D as partners with $\frac{1}{5}$ th and $\frac{1}{6}$ th share respectively.

Calculation:

Initially share of A and B is 1 : 1.

After the admission of C and D

Total share of all four together = 1

A and B combined share = $1 - \text{C's share} - \text{D's share}$

$$= 1 - \frac{1}{5} - \frac{1}{6}$$

$$= \frac{19}{30}$$

$$\text{New ratio of A's share} = \frac{1 \times 19}{2 \times 30} = \frac{19}{60}$$

$$\text{new ratio of B's share} = \frac{1 \times 19}{2 \times 30} = \frac{19}{60}$$

Now, Ratio of all four partners

A : B : C : D

$$\frac{19}{60} : \frac{19}{60} : \frac{1}{5} : \frac{1}{6}$$

19 : 19 : 12 : 10

So, the ratio of their profit is 19 : 19 : 12 : 10 respectively.

82. Answer: d

Explanation:

The correct answer is **option 4**

Given:

A and B are partners sharing profits in the ratio of 7 : 3.

Calculation:

Total profit of A and B = $7x + 3x = 10x$

Out of $10x$, $\frac{1}{5}$ th part acquired by C = $\frac{1}{5} \times 10x = 2x$

C acquires in equal proportion from A and B

That means C acquires x from each.

New ratio of their profit share

A's profit share = $7x - x = 6x$

B's share of profit = $3x - x = 2x$

C's share of profit = $2x$

Now ratio of their profit

A : B : C

$6x : 2x : 2x$

$3 : 1 : 1$

So, A, B and C are sharing profit in the ratio of $3 : 1 : 1$.

83. Answer: c

Explanation:

The correct answer is **option 3**.

Given:

A and B are partners sharing profits in the ratio of $5 : 4$.

Calculation:

Let assume total profit of A and B = $5x + 4x = 9x$

Out of $9x$, C acquires $\frac{1}{9}$ share = $\frac{1}{9} \times 9x = x$

C acquires share from A

So, share of A = $5x - x = 4x$

B's share = $4x$

C' share = x

New profit sharing ratio of A, B and C

A : B : C

$4x : 4x : x$

4 : 4 : 1

So, A, B and C are sharing profit in the ratio of 4 : 4 : 1 respectively.

84. Answer: b

Explanation:

The correct answer is **option 2**.

Given:

X and Y are partners in a firm sharing profits in the ratio of 3 : 2.

Calculation:

$$\text{X share of profit} = \frac{3}{5}$$

$$\text{Y share of profit} = \frac{2}{5}$$

They admit R as a new partner

$$\text{X gives } \frac{1}{3} \text{rd of his share} = \frac{3}{5} \times \frac{1}{3} = \frac{3}{15}$$

$$\text{Y gives } \frac{1}{10} \text{ from his share} = \frac{1}{10} \times \frac{2}{5} = \frac{1}{25}$$

So, their sacrificing ratio

$$\Rightarrow \frac{3}{15} : \frac{1}{25}$$

$$\Rightarrow 5 : 1$$

So, the sacrificing ratio of X and Y is 5 : 1.

85. Answer: c

Explanation:

The correct answer is 1:1

★ Key Points

Sacrificing Ratio:

- Whenever there is an admission of a partner, old partners have to surrender some of their old shares in favour of the new partner. **The ratio in which they surrender their profits is called sacrifice ratio.**
- Goodwill is paid to the old partner's in their sacrifice ratio because the **goodwill is the amount of compensation to be paid by the new parties to the old partner for acquiring their share of profits** which they have surrendered in the favour of the new partner.

★ Important Points

Calculation of Sacrifice Ratio:

Old Ratio: P : Q = 3 : 2

Part of profit sacrificed by P = $\frac{3}{5} \times \frac{1}{6} = \frac{3}{30} = \frac{1}{10}$

Part of profit sacrificed by Q = $\frac{2}{5} \times \frac{1}{4} = \frac{2}{20} = \frac{1}{10}$

Sacrifice Ratio = 1 : 1

86. Answer: b

Explanation:

The correct answer is **option 2**

Given:

S and T are partners sharing profits in the ratio of 3 : 2. W admitted as a partner.

The new profit sharing ratio of S, T and W is 4 : 3 : 2.

Calculation:

Let assume S and T profit = 45 (for easy calculation)

$$\text{Initial share of S} = \frac{3}{5} \times 45 = 27$$

$$\text{Initial share of T} = \frac{2}{5} \times 45 = 18$$

New ratio of profit after admitted W

S : T : W

4 : 3 : 2

$$\text{total sum of ratio} = 4 + 3 + 2 = 9$$

$$\text{New share of S} = \frac{4}{9} \times 45 = 20$$

$$\text{New share of T} = \frac{3}{9} \times 45 = 15$$

$$\text{Sacrifice of S} = \text{New share} - \text{initial share}$$

$$= 27 - 20 = 7$$

$$\text{Sacrifice of T} = \text{New share} - \text{Initial share}$$

$$= 18 - 15 = 3$$

The ratio of sacrificing by S and T

$$\Rightarrow 7 : 3$$

So, the ratio of sacrificing by S and T is 7 : 3 respectively.

87. Answer: a

Explanation:

The correct answer is **option 1**.

Given:

P and Q were partners sharing profits in the ratio of 3 : 2.

They admit R and S as new partners.

P surrenders $\frac{1}{3}$ rd of his share in favour of R and Q surrenders $\frac{1}{4}$ th of his share in favour of S.

Calculation:

Let assume initial profit of P and Q are $3x$ and $2x$ respectively.

P surrenders $\frac{1}{3}$ rd of his share in favour of R = $3x \times \frac{1}{3} = x$

Q surrenders $\frac{1}{4}$ th of his share in favor of S = $2x \times \frac{1}{4} = \frac{x}{2}$

New profit share of P = $3x - x = 2x$

New profit share of Q = $2x - \frac{x}{2} = \frac{3x}{2}$

New profit sharing ratio of P, Q R and S

P : Q : R : S

$2x : \frac{3x}{2} : x : \frac{x}{2}$

$4x : 3x : 2x : x$

4 : 3 : 2 : 1

So, new profit sharing ratio of P, Q, R and S is **4 : 3 : 2 : 1**.

88. Answer: b

Explanation:

The correct answer is **option 2**.

Given:

A and B are partners sharing profits in the ratio of 7 : 5.

They agree to admit C, their manager into partnership, who is to get $\frac{1}{6}$ th share in profits.

He acquires his share $\frac{1}{24}$ th from A and $\frac{1}{8}$ th from B.

Calculation: Let assume total share of A and B = 1 unit

Initial profit sharing of A = $\frac{7}{12}$ and

B initial profit share = $\frac{5}{12}$

After C acquires $\frac{1}{24}$ th from A and $\frac{1}{8}$ th from B.

New share of A = $\frac{7}{12} - \frac{1}{24} = \frac{13}{24}$

New share of B = $\frac{5}{12} - \frac{1}{8} = \frac{7}{24}$

C share of profit = $\frac{1}{6}$

Now, profit share ratio of A, B and C

A : B : C

$\frac{13}{24} : \frac{7}{24} : \frac{1}{6}$

13 : 7 : 4

So, profit sharing ratio of A, B and C is 13 : 7 : 4.

89. Answer: a

Explanation:

The correct answer is **option 1**.

Given:

A, B and C are partners in a firm sharing profits in the ratio of 4 : 3 : 2.

They admit D as a new partner. A, B and C each surrendered $\frac{1}{3}$ rd of their shares in favour of D.

Calculation:

Let assume initial profit of A, B and C is $4x$, $3x$ and $2x$ respectively.

Each surrenders $\frac{1}{3}$ rd of their share

$$\text{New share of A} = 4x - \frac{4x}{3} = \frac{8}{3}x$$

$$\text{New share of B} = 3x - \frac{3x}{3} = 2x$$

$$\text{New share of C} = 2x - \frac{2x}{3} = \frac{4x}{3}$$

$$\text{share of profit of D} = \frac{4x}{3} + x + \frac{2x}{3} = 3x$$

Now, new share of profit

$$A : B : C : D$$

$$\frac{8x}{3} : 2x : \frac{4x}{3} : 3x$$

$$8 : 6 : 4 : 9$$

So, the new profit sharing ratio of A, B, C, and D is 8 : 6 : 4 : 9.

90. Answer: d

Explanation:

The correct answer is **option 4**.

Given:

A and B are in partnership sharing profits and losses in the ratio of 3 : 2. They admit C as a new partner.

Calculation:

Let assume total profit of A and B = 1 unit

Initial share of profit of A = $\frac{3}{5}$

Profit sharing ratio of B = $\frac{2}{5}$

C purchases $\frac{1}{10}$ th share from A

New share of A = $\frac{3}{5} - \frac{1}{10} = \frac{1}{2}$

New profit sharing ratio of

A : B : C

$\frac{1}{2} : \frac{2}{5} : \frac{1}{10}$

5 : 4 : 1

So, the new profit sharing ratio of A, B and C is 5: 4 : 1.

91. Answer: b

Explanation:

The correct answer is **option 2**.

Given:

A and B are partners in a firm sharing profits and losses in the ratio of 5 : 3.

They admit C as a partner for $\frac{1}{4}$ th share in the profits of the firm.

Calculation:

Let assume initial profit of A and B = 1 unit

$$\text{Initial share of A} = \frac{5}{8}$$

$$\text{Initial share of B} = \frac{3}{8}$$

if C acquires his share $\frac{1}{5}$ th from A and $\frac{1}{20}$ th from B.

$$\text{Then, new share of A} = \frac{5}{8} - \frac{1}{5} = \frac{17}{40}$$

$$\text{New share of B} = \frac{3}{8} - \frac{1}{20} = \frac{13}{40}$$

$$\text{Share of C} = \frac{1}{4}$$

New profit sharing ratio of

A : B : C

$$\frac{17}{40} : \frac{13}{40} : \frac{1}{4}$$

$$17 : 13 : 10$$

So, the new profit sharing ratio of A, B and C is 17 : 13 : 10.

92. **Answer: d**

Explanation:

The correct answer is **option 4**.

Given:

$$3\sqrt{3} - 4(\sqrt{7} + \sqrt{3}) + \sqrt{112} + \sqrt{3} = ?$$

Calculation:

$$\Rightarrow 3\sqrt{3} - 4(\sqrt{7} + \sqrt{3}) + \sqrt{112} + \sqrt{3}$$

$$\Rightarrow 3\sqrt{3} - 4\sqrt{7} - 4\sqrt{3} + \sqrt{112} + \sqrt{3}$$

$$\Rightarrow \sqrt{112} - 4\sqrt{7}$$

$$\Rightarrow 4\sqrt{7} - 4\sqrt{7}$$

$$\Rightarrow 0$$

So, the value of $3\sqrt{3} - 4(\sqrt{7} + \sqrt{3}) + \sqrt{112} + \sqrt{3}$ is 0.

93. Answer: d

Explanation:

The correct answer is **option 4**.

Calculation:

We know, the number 8275 lies between square of 90 and 95.

$$\text{Because, } 90^2 = 8100$$

$$91^2 = (90 + 1)^2 = 8100 + 1 + 180 = 8281$$

So, we have to add 6 in 8275 to make the sum a perfect square.

$$8275 + 6 = 8281$$

And 8281 is the perfect square of 91.

So, 6 needs to be added in 8275.

94. Answer: a

Explanation:

The correct answer is **option 1**.

Calculation:

We know,

$$27^2 = 729$$

The given number is 732.

So, we need to subtract 3 from 732.

$$732 - 3 = 729$$

So, the least number 3 must be subtracted from 732 to make the remainder a perfect square.

95. Answer: c

Explanation:

The correct answer is **option 3**.

Calculation:

$$192 \times 1 = 192$$

$$192 \times 2 = 384$$

$$192 \times 3 = 576$$

We know that $24^2 = 576$

So, 3 must be multiplied to 192, so that the product may be a perfect square.

96. Answer: a

Explanation:

The correct answer is **option 1**.

Calculation:

$$\Rightarrow \frac{1260}{35} = 36$$

$$\Rightarrow \frac{1260}{30} = 42$$

$$\Rightarrow \frac{1260}{40} = 31.5$$

$$\Rightarrow \frac{1260}{45} = 28$$

We know that 36 is the perfect square of 6.

So, we need to divided 1260 by 35 to make the quotient a perfect square.

97. Answer: c

Explanation:

The correct answer is **option 3**.

Given:

The boys of a school can be arranged in 15, 18 or 24 equal rows and also into a solid square.

Calculation:

$\Rightarrow$ We need to take LCM of 15, 18 and 24

$$\Rightarrow 15 = 3 \times 5$$

$$\Rightarrow 18 = 2 \times 3 \times 3$$

$$\Rightarrow 24 = 2 \times 2 \times 2 \times 3$$

$$\text{The LCM of } (15, 18, 24) = 2^3 \times 3^2 \times 5 = 72 \times 5 = 360$$

So, the multiple of 360 would be the least number of boys in the school.

$$\Rightarrow 360 \times 10 = 3600$$

So, the least number of boys is 3600 in the school.

98. Answer: c

Explanation:

The correct answer is **option 3**.

Given:

P's age is $\frac{3}{4}$ of Q's and R's age is $1\frac{1}{2}$ of Q's age.

Calculation:

$$\Rightarrow P = \frac{3Q}{4} \text{ -----(1)}$$

$$\Rightarrow R = \frac{3Q}{2} \text{ -----(2)}$$

If the age of R = 30

$$\Rightarrow 30 = \frac{3Q}{2}$$

$$\Rightarrow 3Q = 60$$

$$\Rightarrow Q = 20$$

Put the value of Q in equation (1)

$$P = \frac{3 \times 20}{4} = 15 \text{ years}$$

So, the age of P will be 15 years.

99. Answer: a

Explanation:

The correct answer is **option 1**.

Given:

The ratio of two numbers is 3 : 4 and their L.C.M. is 180.

Calculation:

Let assume the two numbers are $3x$ and $4x$.

LCM of $3x$ and $4x = 3x, 4x = 12x$

$\Rightarrow 12x = 180$

$\Rightarrow x = 15$

So, the two numbers are $15 \times 3 = 45$; $15 \times 4 = 60$.

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100. Answer: c

Explanation:

The correct answer is **option 3**.

Given:

The ratio of two numbers is 5 : 8 and their difference is 69.

Calculation:

Let assume the two numbers are $5x$ and $8x$.

$$\Rightarrow 8x - 5x = 69$$

$$\Rightarrow 3x = 69$$

$$\Rightarrow x = 23$$

The two numbers are

$$\Rightarrow 5x = 5 \times 23 = 115$$

$$\Rightarrow 8x = 8 \times 23 = 184$$

So, the two numbers are 115 and 184.

101. Answer: d

Explanation:

The correct answer is option 4.

Given:

1, 6, 15, ?, 45, 66, 91

Calculation:

$$1 + 5 = 6$$

$$6 + 9 = 15$$

$$15 + 13 = 28$$

$$28 + 17 = 45$$

$$45 + 21 = 66$$

$$66 + 25 = 91$$

So, the missing term will be 28.

102. Answer: c

Explanation:

The correct answer is **option 3**.

Given:

$$11\frac{1}{9}, 12\frac{1}{2}, 14\frac{2}{7}, 16\frac{2}{3} ?$$

Calculation:

⇒ The given series like this

$$\Rightarrow \frac{100}{9}, \frac{100}{8}, \frac{100}{7}, \frac{100}{6}, \frac{100}{5}, \frac{100}{4} \dots\dots$$

$$\Rightarrow \frac{100}{9} = 11\frac{1}{9}$$

$$\Rightarrow \frac{100}{8} = 12\frac{1}{2}$$

$$\Rightarrow \frac{100}{7} = 14\frac{2}{7}$$

$$\Rightarrow \frac{100}{6} = 16\frac{2}{3}$$

$$\Rightarrow \frac{100}{5} = 20$$

So, the missing term in series will be 20.

103. Answer: b

Explanation:

The correct answer is **option 2**.

Given: In the series 2, 6, 18, 54,

Calculation: 1st term = 2

$$\Rightarrow 2^{\text{nd}} \text{ term } 2 \times 3 = 6$$

$$\Rightarrow 3^{\text{rd}} \text{ term } 6 \times 3 = 18$$

$$\Rightarrow 4^{\text{th}} \text{ term } 18 \times 3 = 54$$

$$\Rightarrow 5^{\text{th}} \text{ term } 54 \times 3 = 162$$

$$\Rightarrow 6^{\text{th}} \text{ term } 162 \times 3 = 486$$

$$\Rightarrow 7^{\text{th}} \text{ term } 486 \times 3 = 1458$$

$$\Rightarrow 8^{\text{th}} \text{ term } 1458 \times 3 = 4374$$

104. Answer: c

Explanation:

The correct answer is **option 3**.

Given: series 380, 188, 92, 48, 20, 8, 2

Calculation:

$$\Rightarrow \frac{380}{2} - 2 = 188$$

$$\Rightarrow \frac{188}{2} - 2 = 92$$

$$\Rightarrow \frac{92}{2} - 2 = 44$$

$$\Rightarrow \frac{44}{2} - 2 = 20$$

$$\Rightarrow \frac{20}{2} - 2 = 8$$

$$\Rightarrow \frac{8}{2} - 2 = 2$$

So, the wrong term in the series will be 48.

105. Answer: a

Explanation:

The correct answer is **option 1**.

Given: BMO, EOQ, HQS ?

Calculation: According to alphabetic positions of letters

Alphabets	A	B	C	D	E	F	G	H	I	J	K	L	M
Positional value	1	2	3	4	5	6	7	8	9	10	11	12	13
Positional value	26	25	24	23	22	21	20	19	18	17	16	15	14
Alphabets	Z	Y	X	W	V	U	T	S	R	Q	P	O	N

BMO EOQ HQS KSU

 +3 +3 +3

BMO EOQ HQS KSU

 +2 +2 +2

BMO EOQ HQS KSU

 +2 +2 +2

So, the next term in the series will be KSU.

106. Answer: c

Explanation:

The correct answer is **option 3**.

Given: Vigilant : Alert :: Viable : ?

Logic:

⇒ Alert is the synonyms of Vigilant. Alert means active.

⇒ Similarly, Feasible is the synonyms of Viable. Feasible means possible to do easily.

So, Feasible will be the correct Analogy of Viable.

107. Answer: b

Explanation:

The correct answer is **option 2**.

Logic:

⇒ 'Visibility' is the antonyms of 'Fog'.

⇒ Fog means difficult to see objects.

⇒ Similarly, 'Resistance' is the Antonyms of 'AIDS'.

⇒ AIDS means vulnerability to resist diseases.

108. Answer: a

Explanation:

The correct answer is **option 1**.

Logic:

⇒ Second is the effect produced by the first.

⇒ Heat is produced by Infrared.

⇒ **Cancer** is produced by Ultraviolet.

109. **Answer: a**

Explanation:

The correct answer is **option 1**.

Logic:

⇒ Second Analogous is an extreme state of first Analogous.

⇒ Gulp is an extreme state of Sip.

⇒ Similarly, Push is the extreme state of touch.

110. **Answer: b**

Explanation:

The correct answer is **option 2**.

Given: Deplete : Enervate

Logic:

⇒ First and second Analogous are synonyms to one another.

⇒ Deplete is the synonyms of Enervate.

⇒ Deplete means to reduce something in size or amount, while Enervate means weak or powerless.

⇒ Similarly, Exhaust is the synonyms of Enfeeble.

⇒ Exhaust means finish or extraction, while Enfeeble means weaken.

111. Answer: b

Explanation:

The correct answer is **option 2**.

Logic:

⇒ The First and Second term are synonyms to one another.

⇒ Lugubrious is the synonyms to **Sorrowful**.

⇒ Lugubrious means sad or unhappy, while sorrowful also means unhappy or gloomy.

⇒ **Frenzied is the synonyms of Excited**.

⇒ Frenzied means angry, while Excited means aroused or agitated.

⇒ All other options are Antonyms to one another.

112. Answer: d

Explanation:

The correct answer is **option 4**.

Logic:

⇒ The given words are synonyms to one another.

⇒ Incandescent is the synonyms to Glowing.

⇒ Incandescent means zealous or ardent, while Glowing means flaming or burning.

⇒ **Similarly, Indefatigable is the synonyms to Untiring**.

⇒ Indefatigable means tireless, while untiring means also tireless.

⇒ Other options are antonyms to one another.

113. Answer: d

Explanation:

The correct answer is **option 4**.

Logic:

⇒ First is the effect caused by second.

⇒ Annihilation means complete destruction, which caused by fire.

⇒ Similarly, Cataclysm violent event in natural world, which can be caused by Flood.

114. Answer: a

Explanation:

The correct answer is **option 1**.

Logic:

⇒ The cat's foot is called a paw.

⇒ Similarly, The horse's foot is called a hoof.

115. Answer: b

Explanation:

The correct answer is **option 2**.

Given: MAN : PDQ :: WAN : ?

Calculation:

Alphabets	A	B	C	D	E	F	G	H	I	J	K	L	M
Positional value	1	2	3	4	5	6	7	8	9	10	11	12	13
Positional value	26	25	24	23	22	21	20	19	18	17	16	15	14
Alphabets	Z	Y	X	W	V	U	T	S	R	Q	P	O	N

$$\begin{array}{l}
 M \xrightarrow{+3} P \dots W \xrightarrow{+3} Z \\
 A \xrightarrow{+3} D \dots A \xrightarrow{+3} D \\
 N \xrightarrow{+3} Q \dots N \xrightarrow{+3} Q
 \end{array}$$

So, MAN : PDQ :: WAN : ZDQ

116. Answer: c

Explanation:

The correct answer is option 3.

Logic:

⇒ Brass is an alloy of Copper and Zinc.

⇒ While all other options are pure metals like Cu, Zn and Al.

117. Answer: c

Explanation:

The correct answer is option 3.

Logic:

⇒ Peso is the currency of Bangladesh.

⇒ While, others are Greek letters.

So, Peso is the odd one.

118. Answer: c

Explanation:

The correct answer is **option 3**.

Logic:

⇒ Diplomacy is the way of relationship with foreign countries.

⇒ Other options are way of Governance and Administration.

119. Answer: d

Explanation:

The correct answer is **option 4**.

Logic:

⇒ Fretful is the correct answer because other group of letters start and end with the same letter.

120. Answer: a

Explanation:

The correct answer is **option 1**.

Logic:

⇒ Cortex, Cranium and Cerebellum are the parts of the brain

⇒ While, Tibia is the name of bone found in leg.

121. Answer: b

Explanation:

The correct answer is **option 2**.

Given:

If GOLD is coded as HOME, COME is coded as DONE and CORD is coded as DOSE.

Logic:

⇒ The Consonants are replaced by the following alphabet, while Vowels are unchanged.

G	O	L	D
H	O	M	E

C	O	M	E
D	O	N	E

Similarly,

S	O	N	S
T	O	O	T

So, SONS would be coded as TOOT.

122. Answer: c

Explanation:

The correct answer is **option 3**.

Given:

If in a certain language, CHARCOAL is coded as 45164913 and MORALE is coded as 296137.

Logic:

⇒ The words are coded in numerical form.

C	H	A	R	C	O	A	L
4	5	1	6	4	9	1	3

M	O	R	A	L	E
2	9	6	1	3	7

Similarly,

A	L	L	O	C	H	R	E
1	3	3	9	4	5	6	7

So, the word ALLOCHRE will be coded as 13394567.

123. Answer: b

Explanation:

The correct answer is **option 2**.

Coded words:

⇒ Air → Green

⇒ Green → Blue

⇒ Blue → Sky

⇒ Sky → Yellow

⇒ Yellow → Water

⇒ Water → Pink

Logic:

We know that clear sky is Blue.

And Blue is coded as Sky.

So, Clear sky is coded as Sky.

124. Answer: a **Your Personal Exams Guide**

Explanation:

The correct answer is **option 1**.

Given:

1. 'si po re' means 'book is thick',
2. 'ti na re' means 'bag is heavy',
3. 'ka si' means 'interesting book' and
4. 'de ti' means 'that bag'.

Solution:

⇒ From the code 1 and 2

'is' coded as 're'

⇒ From code 1 and code 3

Interesting is coded as 'ka'.

⇒ From code 2 and code 4

'that' is coded as 'de'.

So, 'that is interesting' is coded as 'de re ka'.

125. Answer: a

Explanation:

The correct answer is **option 1**.

Given:

(i) 'kemp lamp tems' means 'speak the truth';

(ii) 'bis tim nak' means 'always seek knowledge';

(iii) 'tim tems sik' means 'knowledge is truth';

(iv) 'lik bis zap' means 'never seek violence'.

Calculation:

⇒ Taking common in the given code 2 & 3 and 2 & 4.

From 2&3 code: Knowledge is coded as 'tim'.

From the code 2 & 4: Seek is coded as 'bis'.

So, Always is coded as 'nak'

126. Answer: d

Explanation:

The correct answer is the **option 4**.

Given:

Introducing Reena, Monika said, "She is the only daughter of my father's only daughter".

Logic:

⇒ Monika is the only daughter of her father.

⇒ And Reena is the only daughter of Monika.

So, Monika is the mother of Reena.

127. Answer: a

Explanation:

The correct answer is **option 1**.

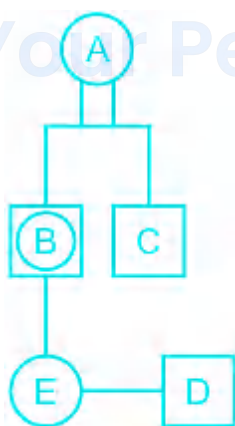
Family chart:

Symbol in Diagram	Meaning
○	Female
□	Male
==	Married couple
—	Siblings
	Difference of a generation

Given:

- (i) A is the mother of B
- (ii) C is the son of A
- (iii) D is the brother of E
- (iv) E is the daughter of B

Solution:



So, the grandmother of D is A.

128. Answer: b

Explanation:

The correct answer is **option 2**.

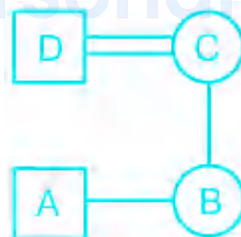
Given:

A is the brother of B, B is the daughter of C and D is the father of A.

Family Chart:

Symbol in Diagram	Meaning
○	Female
□	Male
══	Married couple
—	Siblings
	Difference of a generation

Solution:



So, C is the wife of D.

129. **Answer: b**

Explanation:

The correct answer is **option 2**.

Given:

1. Ravi and Kunal are good in Hockey and Volleyball.
2. Sachin and Ravi are good in Hockey and Baseball,
3. Gaurav and Kunal are good in Cricket and Volleyball.
4. Sachin, Gaurav and Michael are good in Football and Baseball.

Logic:

⇒ From the given statement 1 and 3

Kunal is good in Hockey, Cricket and Volleyball.

130. Answer: b

Explanation:

The correct answer is **option 2**.

Given:

Six students A, B, C, D, E and F are sitting in the field.

A and B are from Delhi while the rest are from Bangalore.

D and F are tall while others are short. A, C and D are girls while others are boys.

Calculation:

Person	Place
A, B	Delhi
C, D, F	Bangalore

So, D is the girl tall girl from Bangalore.

P X Z S R A
or
P X S Z R A

 GET IT ON
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The correct answer is **option 1**.

Given:

Alka is older than Mala, Gopal is older than Mala but younger than Alka.

Kapil is younger than Ram and Mala. Mala is older than Ram.

Calculation:

1. Alka is older than Mala,

$\text{Alka} > \text{Mala}$

2. Gopal is older than Mala but younger than Alka

$\text{Alka} > \text{Gopal} > \text{Mala}$

3. Kapil is younger than Ram and Mala.

$\text{Ram \& Mala} > \text{Kapil}$

4. Mala is older than Ram.

$\text{Mala} > \text{Ram}$

From the above statements

$\Rightarrow \text{Alka} > \text{Gopal} > \text{Mala} > \text{Ram} > \text{Kapil}$

So, Mala age is between Gopal and Ram.

133. Answer: d

Explanation:

The correct answer is **option 4**.

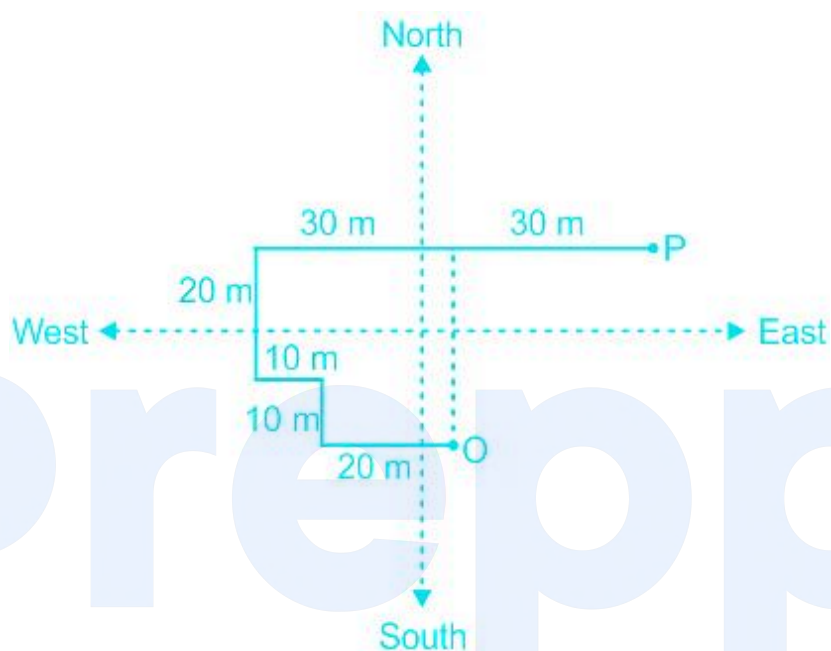
Given:

I am facing south. I turn right and walk 20 m. Then I turn right again and walk 10 m.

Then I turn left and walk 10 m and then turning right walk 20 m.

Then I turn right again and walk 60 m.

Calculation:



So, I am in North-East direction from the starting point.

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134. Answer: a

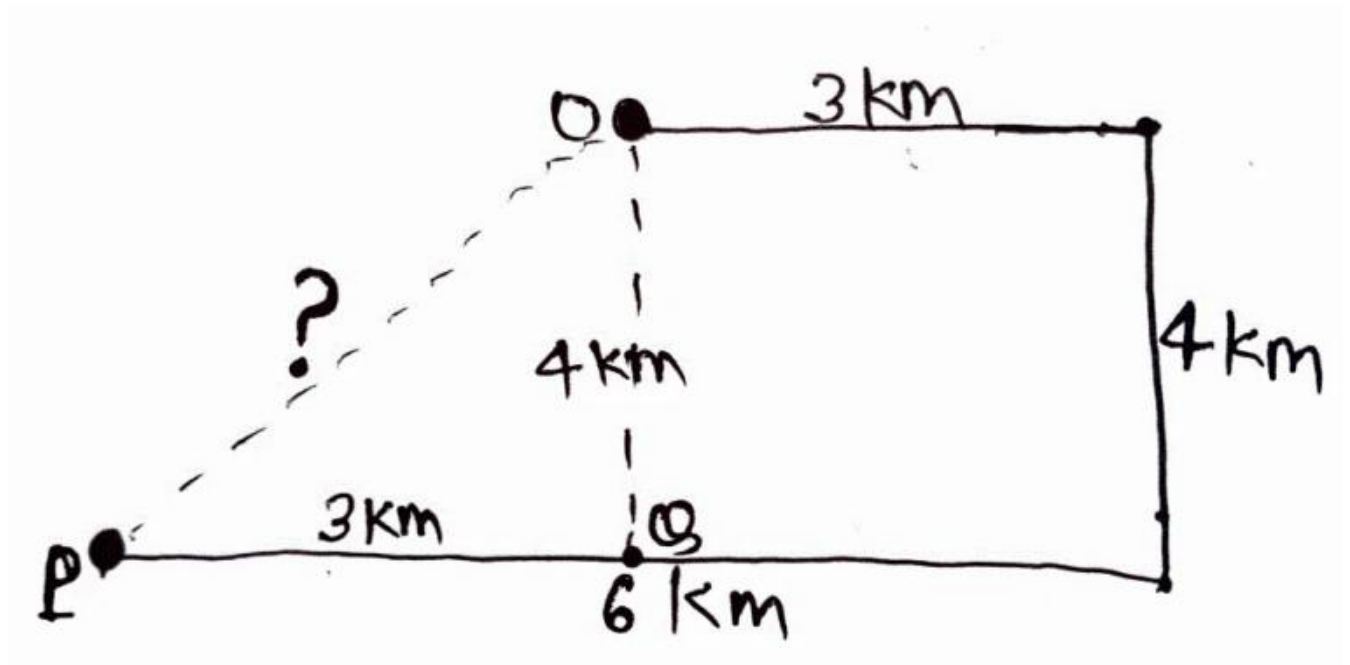
Explanation:

The correct answer is option 1.

Given:

Kailash walks 3 km to East and turns South and walks 4 km. Again turns West and walks 6 km.

Calculation:



The distance between start and end points;

⇒ Use the Pythagoras theorem in $\triangle OPQ$

$$\Rightarrow \sqrt{3^2 + 4^2}$$

$$\Rightarrow \sqrt{25}$$

$$\Rightarrow 5 \text{ km}$$

So, he is 5 km far from the starting point.

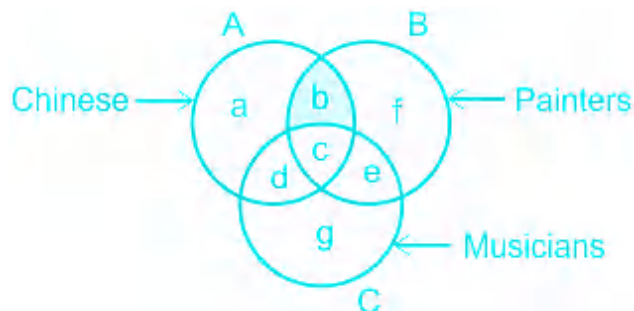
135. Answer: a

Explanation:

The correct answer is **option 1**.

Given: Venn diagram of three category persons.

Calculation:

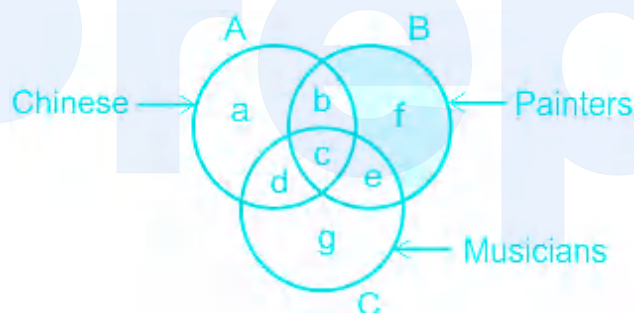


⇒ The common area of Chinese and painters but not musicians is 'b'.

136. Answer: c

Explanation:

From ven diagram



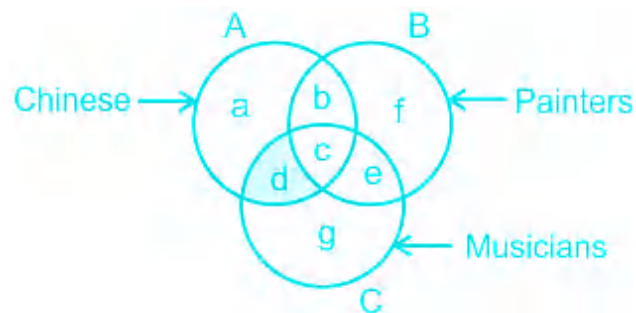
f represents the painters who are neither Chinese nor musicians.

Hence 'f' is the correct answer.

137. Answer: a

Explanation:

From the ven diagram



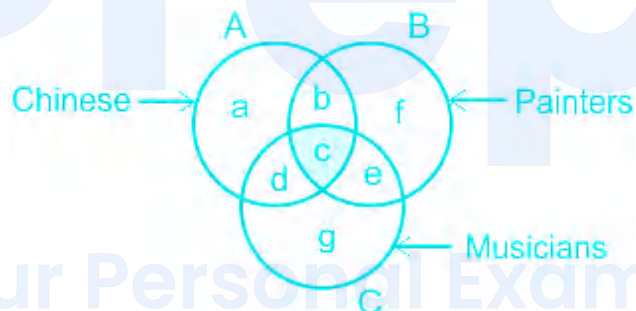
Letter 'd' represents Chinese who are Musicians but not Painters.

Hence 'd' is the correct answer.

138. Answer: c

Explanation:

From the ven diagram



Letter 'c' represents Chinese who are Painters as well as Musicians.

Hence, 'c' is the correct answer.

139. Answer: c

Explanation:

According to the sequence in the dictionary, the correct order of the words is

Magical, **M**agnetic, **M**agnify, **M**aternal.

Hence, in the given words 'Magnetic' will come second in the English dictionary.

140. Answer: a

Explanation:

Given:

YPCUIAT

Meaningful word of the given jumbled letters is PAUCITY.

Meaning of PAUCITY is scarcity, too little.

Hence, opposite of PAUCITY is SURPLUS.

141. Answer: d

Explanation:

Given:

SAYMTNE

Meaningful word of the given jumbled letters is AMNESTY.

Meaning of AMNESTY is PARDON.

Hence, opposite of AMNESTY is PUNISHMENT.

142. Answer: b

Explanation:

Given jumbled word is

MRPBLOE

Meaningful word of the given jumbled word is **PROBLEM**.

Opposite of the PROBLEM is **SOLUTION**.

★ Additional Information

PROBLEM

Synonyms	Antonyms
issue, difficulty, trouble, worry, obstacle, question, etc.	solution, response, assistance, etc.

143. Answer: d

Explanation:

Given:

Nitin's rank from first = 18

Formula used:

Position from last = Total - Position from first + 1

Calculation:

Nitin's rank from last = Total students - Rank from first + 1

Nitin's rank from last = 49 - 18 + 1

Nitin's rank from last = 32

Hence, Nitin's rank from last is 32.

144. Answer: d

Explanation:

Symbols	P	Q	R	S
Meaning	+	-	×	÷

By inserting the codes and applying the BODMAS rule in each option

$$(1) 36 R 4 S 8 Q 7 P 4 = 10$$

$$36 \times 4 \div 8 - 7 + 4$$

$$= 18 - 3$$

$$= 15 \neq 10$$

$$(2) 16 R 12 P 49 S 7 Q 9 = 200$$

$$16 \times 12 + 49 \div 7 - 9$$

$$= 16 \times 12 + 7 - 9$$

$$= 192 - 2$$

$$= 190 \neq 200$$

$$(3) 32 S 8 R 9 = 160 Q 12 R 12$$

LHS

$$32 \div 8 \times 9$$

$$= 4 \times 9$$

$$= 36$$

RHS

$$160 - 12 \times 12$$

$$= 160 - 144$$

$$= 16$$

$$\text{RHS} \neq \text{LHS}$$

$$(4) \ 8 \times 8 + 8 \div 8 - 8 = 57$$

$$8 \times 8 + 8 \div 8 - 8$$

$$= 8 \times 8 + 1 - 8$$

$$= 64 + 1 - 8$$

$$= 57$$

Hence, option (4) is correct.

145. Answer: d

Explanation:

1. Shoulder 2. Wrist 3. Elbow 4. Plam 5. Finger

Correct arrangement of the above parts of the hand would be

5. Finger

4. Palm

2. Wrist

3. Elbow

1. Shoulder

So, the correct logical order is 5, 4, 2, 3, 1.

146. Answer: d

Explanation:

Given:

Waiter's income = Salary + tips

During one week his tips were $\frac{5}{4}$ of his salary.

Calculation:

Let waiter's salary be Rs. x .

His tips = Rs. $\frac{5}{4}x$

His income = $x + \frac{5}{4}x$

= $\frac{9}{4}x$

Fraction of his income came from tips = $\frac{\frac{5}{4}x}{\frac{9}{4}x}$

= $\frac{5}{9}$

Hence, $\frac{5}{9}$ of his income came from tips.

147. Answer: b

Explanation:

Logic followed:

Middle number = Product of top and bottom numbers – Product of left and right numbers

$$36 = 8 \times 6 - 2 \times 6$$

$$46 = 7 \times 8 - 2 \times 5$$

Similarly,

$$7 \times 10 - 4 \times 6 = 46$$

Hence, '46' is the correct answer.

148. Answer: d

Explanation:

It is obvious that every employee should work hard and try to fulfill his/her duties.

So, if on a tough day you are the only person available to handle the customers, you should **try and work to the maximum of your ability to satisfy customers.**

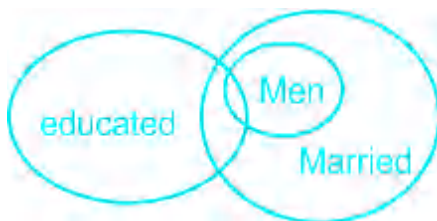
149. Answer: d

Explanation:

Concept used:

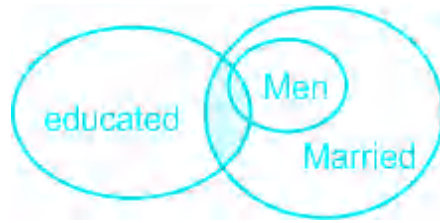
If "All A are B" is true then "Some A are B" is always true.

Least possible ven diagram

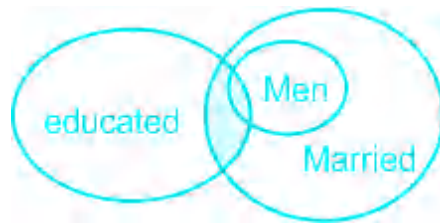


Conclusions:

I. Some married are educated.



II. Some educated are married.

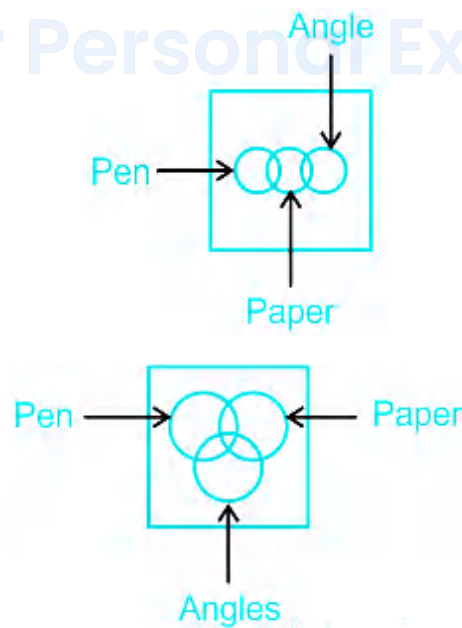


Hence, both conclusions I and II follow.

150. Answer: c

Explanation:

Possible ven diagrams:



First ven diagram follows the conclusion I i.e. **Angle is not a pen.**

Second ven diagram follows the conclusion II i.e. **Angle is a pen.**

Form above it is clear that **either conclusion I or II follows.**

151. **Answer: b**

Explanation:

To find the correct set of assumption/assumptions, let's deal with each of them separately.

I. People read printed matter on a cigarette packet.

- If the warning is printed on a packet of cigarettes then it is meant to be read by the consumer.
- Thus when the maker of the cigarettes prints a warning 'Smoking is injurious to health' he/she indirectly **assumes that people will read the printed matter.**

II. People will make careful note of a warning.

- By printing the warning, the producer is warning to the people who know smoking is injurious to health but ignorant about it.
- Thus, again the maker of cigarette **indirectly points out to the user that they should make note of the warning.**

III. Non-smoking promotes health.

- In the statement 'Smoking is injurious to health', the maker of the cigarette is **not implying anything about the advantages of non-smoking but is implying the disadvantages of smoking.**

Hence, only I and II are implicit.

152. **Answer: c**

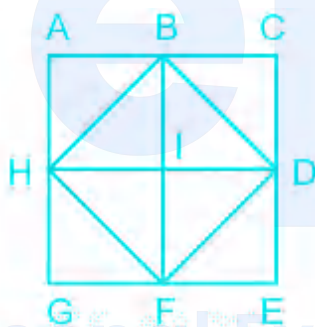
Explanation:

- Clearly, banks are directed to refuse fresh loans to major defaulters only.
- So, the banks may still give loans to some defaulters. **Thus, I is implicit.**
- Also, the RBI's decision is a measure to recover the previous loans, since one would have to clear the old debts so as to get a fresh loan. **So, both II and III are also implicit.**

Hence, all are implicit.

153. Answer: b

Explanation:



The triangles are : ABH, BCD, DEF, FGH, HIB, BDI, DFI, FHI, BDH, DFH, BHF, BDF

∴ Total 12 triangles are formed.

Hence, 12 is the correct answer.

154. Answer: d

Explanation:

Mirror image of the given options are

Option (1)

OSMIHOM | MOHIMZO

Mirror image is not same.

Option (2)

VHRTRVH | HVЯTЯHV

Mirror image is not same.

Option (3)

HIMOSTA | ATZOMIH

Mirror image is not same.

Option(4)

AOVIVOA | AOVIVOA

Mirror image is same.

Hence option (4) is correct.

★ Key Points

1. The letters A, H, I, M, O, T, U, V, W, X and Y appear same in their mirror image.
2. All other letters of the alphabet appear reversed in their mirror image.

155. Answer: a

Explanation:

Given:

1. In a dice a, b, c and d are written on the adjacent faces, in a clockwise order (a → b → c → d)
2. e and f at the top and bottom.

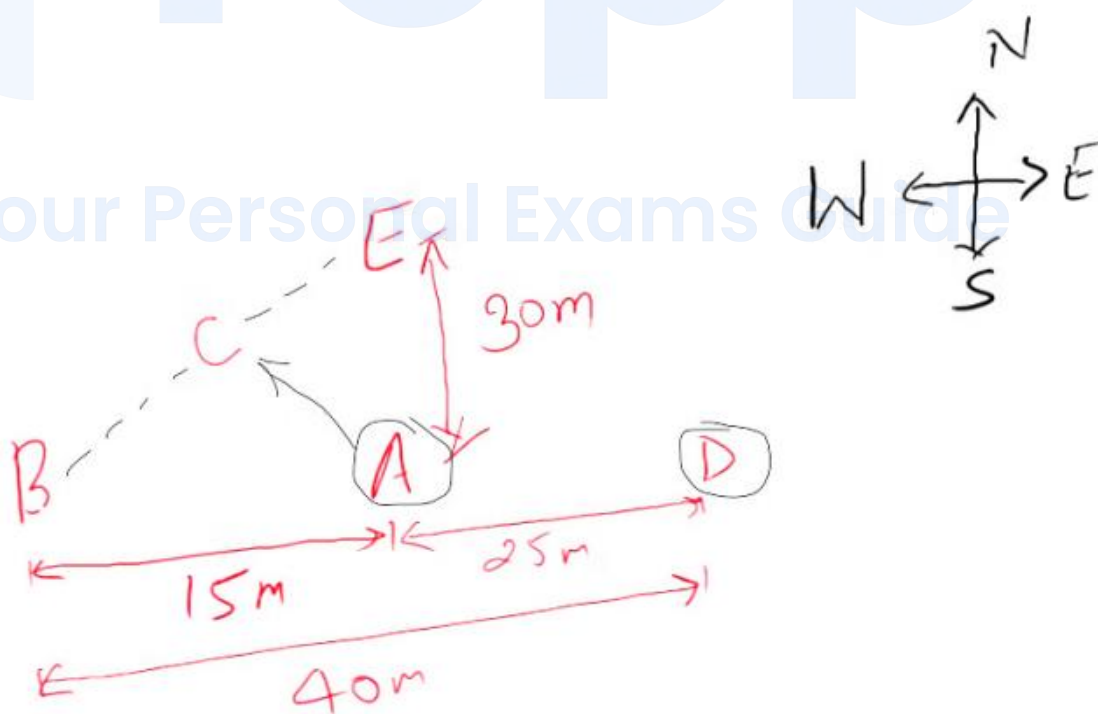
The pairs of opposite faces from the given data are:

1. e and f are opposite to each other.
2. a and c are opposite to each other.
3. b and d are opposite to each other.

Hence, when c is at the top a will be at the bottom.

156. Answer: b

Explanation:

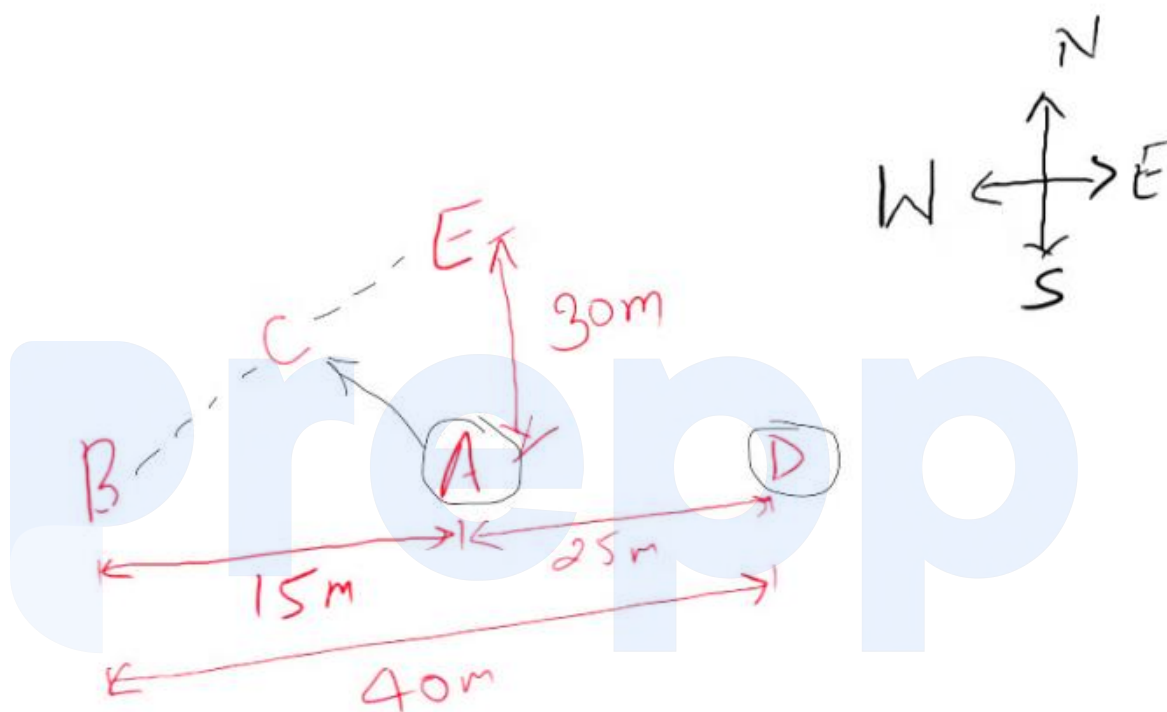


From the above figure, it is clear that the distance between tree A and tree D is 25 m.

Hence, 25 is the correct answer.

157. Answer: c

Explanation:



From the above figure, it is clear that the direction of E with respect to D is north-west.

Hence, north-west is the correct answer.

158. Answer: c

Explanation:

Given :

The area of the triangle is equal to the area of the square.

Side of square = 75 m

Altitude of the triangle = 125 m

Formula used:

Area of a square = $(side)^2$

Area of triangle = $\frac{1}{2} \times base \times altitude$

Calculation:

Area of the square = $(75)^2 = 5625 \text{ m}^2$

Now, the area of the triangle = area of square

$$\Rightarrow \frac{1}{2} \times base \times 125 = 5625$$

$$\Rightarrow base = \frac{5625 \times 2}{125}$$

$$\Rightarrow base = 90 \text{ m}$$

Hence, the side of the triangle is 90 m.

159. Answer: a

Explanation:

Given:

B	A	S	K	E	T
5	\$	3	%	#	1

T	R	I	E	D
1	4	*	#	2

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$\therefore$ SKIRT is written as $3\%*41$.

160. Answer: a

Explanation:

In the given number 81943275, the first and fifth digits are interchanged.

So, the number becomes 31948275.

The second and the sixth digits are interchanged.

So, the number becomes 32948175.

The third and seventh digits are interchanged.

So, the number becomes 32748195.

The fourth and the eighth digits are interchanged.

So, the number becomes 32758194.



$\therefore$ The third digit from the right end is 1.

161. Answer: d

Explanation:

$$\frac{5}{8} \times 2\frac{3}{5} \div \frac{4}{9}$$

$$= \frac{5}{8} \times \frac{13}{5} \times \frac{9}{4}$$

$$= \frac{117}{32}$$

$$= 3\frac{21}{32}$$

$\therefore 3\frac{21}{32}$ is the correct answer.

162. Answer: c

Explanation:

$$3\frac{2}{3} + 2\frac{3}{4} + 1\frac{1}{2}$$

$$= \frac{11}{3} + \frac{11}{4} + \frac{3}{2}$$

$$= \frac{95}{12}$$

$$= 7\frac{11}{12}$$

Hence, $7\frac{11}{12}$ is the correct answer.

163. Answer: b

Explanation:

Given series is

4, 10, ?, 82, 244, 730

logic followed

Next number = first number $\times 3 - 2$

$$10 = 4 \times 3 - 2$$

$$28 = 10 \times 3 - 2$$

$$82 = 28 \times 3 - 2$$

$$244 = 82 \times 3 - 2$$

$$730 = 244 \times 3 - 2$$

Hence, 28 is the correct answer.

164. Answer: d

Explanation:

The correct dictionary order of given words is

Immigrate,

Immutable,

Impassioned,

Imperative.

Hence, 'Impassioned' will appear third in the dictionary.

165. Answer: a

Explanation:

V works in Oswal and he likes neither Red nor Orange.

	SHOP	COLOUR
T		
U		
V	OSWAL	
W		
X		
Y		
Z		

Z works in Big Bazar and likes Green colour.

W likes White and works in Max.

U works in Walmart and likes Yellow colour.

	SHOP	COLOUR
T		
U	WALMART	YELLOW
V	OSWAL	
W	MAX	WHITE
X		
Y		
Z	BIG BAZAR	GREEN

The one who works in Easyday likes blue colour.

X and Y do not work in Reliance Fresh and neither of them likes Orange colours.

X does not work in Vmart.

	SHOP	COLOUR
T	RELIANCE FRESH	ORANGE
U	WALMART	YELLOW
V	OSWAL	BLACK
W	MAX	WHITE
X	EASY DAY	BLUE
Y	V-MART	RED
Z	BIG BAZAR	GREEN

∴ X works in Easy Day.

166. Answer: a

Explanation:

V works in Oswal and he likes neither Red not Orange.

	SHOP	COLOUR
T		
U		
V	OSWAL	
W		
X		
Y		
Z		

Z works in Big Bazar and likes Green colour.

W likes White and works in Max.

U works in Walmart and likes Yellow colour.

	SHOP	COLOUR
T		
U	WALMART	YELLOW
V	OSWAL	
W	MAX	WHITE
X		
Y		
Z	BIG BAZAR	GREEN

The one who works in Easyday likes blue colour.

X and Y do not work in Reliance Fresh and neither of them likes Orange colours.

X does not work in Vmart.

	SHOP	COLOUR
T	RELIANCE FRESH	ORANGE
U	WALMART	YELLOW
V	OSWAL	BLACK
W	MAX	WHITE
X	EASY DAY	BLUE
Y	V-MART	RED
Z	BIG BAZAR	GREEN

$\therefore$ V likes black colour.

167. Answer: d

Explanation:

V works in Oswal and he likes neither Red nor Orange.

	SHOP	COLOUR
T		
U		
V	OSWAL	
W		
X		
Y		
Z		

Z works in Big Bazar and likes Green colour.

W likes White and works in Max.

U works in Walmart and likes Yellow colour.

	SHOP	COLOUR
T		
U	WALMART	YELLOW
V	OSWAL	
W	MAX	WHITE
X		
Y		
Z	BIG BAZAR	GREEN

The one who works in Easyday likes blue colour.

X and Y do not work in Reliance Fresh and neither of them likes Orange colours.

X does not work in Vmart.

	SHOP	COLOUR
T	RELIANCE FRESH	ORANGE
U	WALMART	YELLOW
V	OSWAL	BLACK
W	MAX	WHITE
X	EASY DAY	BLUE
Y	V-MART	RED
Z	BIG BAZAR	GREEN

∴ All three statements are true.

168. Answer: d

Explanation:

V works in Oswal and he likes neither Red not Orange.

	SHOP	COLOUR
T		
U		
V	OSWAL	
W		
X		
Y		
Z		

Z works in Big Bazar and likes Green colour.

W likes White and works in Max.

U works in Walmart and likes Yellow colour.

	SHOP	COLOUR
T		
U	WALMART	YELLOW
V	OSWAL	
W	MAX	WHITE
X		
Y		
Z	BIG BAZAR	GREEN

The one who works in Easyday likes blue colour.

X and Y do not work in Reliance Fresh and neither of them likes Orange colours.

X does not work in Vmart.

	SHOP	COLOUR
T	RELIANCE FRESH	ORANGE
U	WALMART	YELLOW
V	OSWAL	BLACK
W	MAX	WHITE
X	EASY DAY	BLUE
Y	V-MART	RED
Z	BIG BAZAR	GREEN

∴ T likes orange colour.

169. Answer: a

Explanation:

V works in Oswal and he likes neither Red not Orange.

	SHOP	COLOUR
T		
U		
V	OSWAL	
W		
X		
Y		
Z		

Z works in Big Bazar and likes Green colour.

W likes White and works in Max.

U works in Walmart and likes Yellow colour.

	SHOP	COLOUR
T		
U	WALMART	YELLOW
V	OSWAL	
W	MAX	WHITE
X		
Y		
Z	BIG BAZAR	GREEN

The one who works in Easyday likes blue colour.

X and Y do not work in Reliance Fresh and neither of them likes Orange colours.

X does not work in Vmart.

	SHOP	COLOUR
T	RELIANCE FRESH	ORANGE
U	WALMART	YELLOW
V	OSWAL	BLACK
W	MAX	WHITE
X	EASY DAY	BLUE
Y	V-MART	RED
Z	BIG BAZAR	GREEN

∴ T works in Reliance fresh and likes orange colour.

170. Answer: b

Explanation:

Given:

A bag contains 4 White shirts, 4 Black shirts and 6 Pink shirts.

Concept used:

$$\text{Probability of an event} = \frac{\text{Favourable outcomes}}{\text{Total outcomes}}$$

Calculation:

The probability of getting at most one white shirt will have two cases.

1. Getting no white shirt i.e. both shirts other than white.
2. Getting one white shirt and another different colour shirt.

So, favourable outcomes = $({}^4C_0 \times {}^{10}C_2 + {}^4C_1 \times {}^{10}C_1)$

Total outcomes = ${}^{14}C_2$

Probability = $\left(\frac{{}^4C_0}{{}^{14}C_2} + \frac{{}^4C_1}{{}^{14}C_2} \right)$

$$= \frac{1 \times \frac{10 \times 9}{2} + 4 \times 10}{\frac{14 \times 13}{2}}$$

$$= \frac{85}{91}$$

$\therefore$ The probability of getting at most one white shirt is $\frac{85}{91}$.

171. Answer: a

Explanation:

Given series:

1, 8, 27, 64, 125, _ _ _ _

Logic followed

$$1 = 1^3$$

$$8 = 2^3$$

$$27 = 3^3$$

$$64 = 4^3$$

$$125 = 5^3$$

So, next number will be $6^3 = 216$

$\therefore$ 216 is the correct answer.

Note – First option in the official question paper was 256 which was wrong so Testbook has corrected it accordingly.

172. Answer: c

Explanation:

Pulp is the raw material used to make paper.

Pulp is the mixture of old papers, plant fibres and wood mixed with water until they form a soft wet mass, used for making paper.

Similarly, hemp is the raw material used to make rope.

Hemp is an botanical class of Cannabis sativa cultivars grown specially for industrial or medicinal use.

Hemp is used to make wide range of products including rope, textiles, clothing, etc.

Hence, rope is the correct answer.

173. Answer: c

Explanation:

Tectonics is the science dealing with art of building.

Similarly, taxidermy is the art of stuffing animals.

∴ Stuffing is the correct answer.

174. Answer: c

Explanation:

Ecology is the study of the environment.

Similarly, histology is the study of tissues.

∴ 'Tissues' is the correct answer.

★ Confusion Points

- **Histology** is the study of tissues and their structure. So, it is related to anatomy and physiology.
- **Histopathology** is the study of tissues affected by diseases.

175. Answer: c

Explanation:

Intelligentsia means highly educated people.

Elitist means one who favours or belongs to the elite class.

Similarly,

Rabble means crowd or mob.

Plebeian means commoner.

The words in each pair are synonyms.

∴ Rabble : Plebeian is the correct answer.

176. Answer: d

Explanation:

Here,

Pupil, iris and cornea are the parts of the eye while medulla is the part of the brain.

∴ Medulla is the odd one.

177. Answer: c

Explanation:

The logic followed is

$$\begin{array}{c} \text{BR} \\ \hline 1 \end{array} \quad \begin{array}{c} \text{EA} \\ \hline 2 \end{array} \quad \begin{array}{c} \text{KT} \\ \hline 3 \end{array} \quad \begin{array}{c} \text{HR} \\ \hline 4 \end{array} \quad \begin{array}{c} \text{OU} \\ \hline 5 \end{array} \quad \begin{array}{c} \text{GH} \\ \hline 6 \end{array}$$

$$\begin{array}{c} \text{EA} \\ \hline 2 \end{array} \quad \begin{array}{c} \text{OU} \\ \hline 5 \end{array} \quad \begin{array}{c} \text{HR} \\ \hline 4 \end{array} \quad \begin{array}{c} \text{BR} \\ \hline 1 \end{array} \quad \begin{array}{c} \text{GH} \\ \hline 6 \end{array} \quad \begin{array}{c} \text{KT} \\ \hline 3 \end{array}$$

$$\frac{\text{BR}}{1} \frac{\text{EA}}{2} \frac{\text{KT}}{3} \frac{\text{HR}}{4} \frac{\text{OU}}{5} \frac{\text{GH}}{6}$$

$$\frac{\text{EA}}{2} \frac{\text{OU}}{5} \frac{\text{HR}}{4} \frac{\text{BR}}{1} \frac{\text{GH}}{6} \frac{\text{KT}}{3}$$

Similarly,

$$\begin{array}{c} \text{DI} \\ \hline 1 \end{array} \quad \begin{array}{c} \text{ST} \\ \hline 2 \end{array} \quad \begin{array}{c} \text{RI} \\ \hline 3 \end{array} \quad \begin{array}{c} \text{BU} \\ \hline 4 \end{array} \quad \begin{array}{c} \text{TI} \\ \hline 5 \end{array} \quad \begin{array}{c} \text{ON} \\ \hline 6 \end{array}$$

$$\begin{array}{c} \text{ST} \\ \hline 2 \end{array} \quad \begin{array}{c} \text{TI} \\ \hline 5 \end{array} \quad \begin{array}{c} \text{BU} \\ \hline 4 \end{array} \quad \begin{array}{c} \text{DI} \\ \hline 1 \end{array} \quad \begin{array}{c} \text{ON} \\ \hline 6 \end{array} \quad \begin{array}{c} \text{RI} \\ \hline 3 \end{array}$$

$\frac{D1}{I} \frac{ST}{2} \frac{RI}{3} \frac{BU}{4} \frac{TI}{5} \frac{ON}{6}$

$\frac{ST}{2} \frac{TI}{5} \frac{BU}{4} \frac{DI}{1} \frac{ON}{6} \frac{RI}{3}$

∴ STTIBUDIONRI is the correct answer.

178. Answer: c

Explanation:



∴ 'tri' is the word that stands for 'Sunday'.

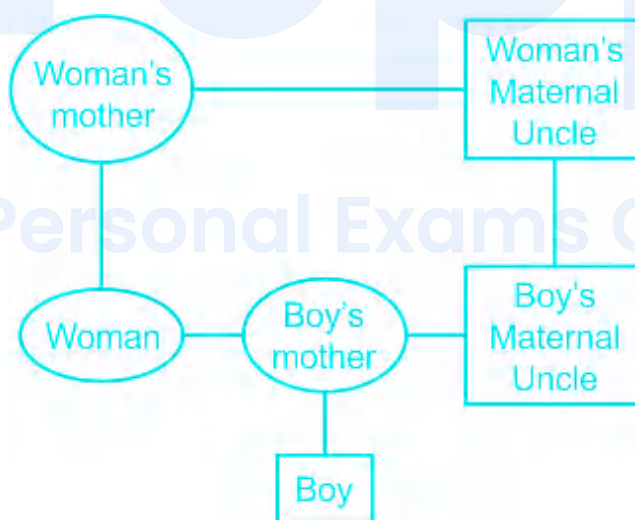
179. Answer: c

Explanation:

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Symbol in Diagram	Meaning
○	Female
□	Male
==	Married Couple
—	Siblings
	Difference of A Generation

Possible family tree is



From this family tree, it is clear that the woman and the boy's mother are cousins.

∴ The lady is the aunt of the boy.

∴ 'Aunt and Nephew' is the correct answer.

180. Answer: b

Explanation:

Man	A, B	C, D	E
Woman	R	P, Q, S	T, U
Occupation	ADVOCATES	DOCTORS	TEACHERS

Two male advocates – A, B

But, A, P and U have to be together.

Therefore, one lady doctor and one teacher will be P and U respectively.

Now, another lady doctor would be either Q or S.

But, Q and E have to be together.

Another lady doctor will be S.

∴ The members of the team are A, B, P, U and S.

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181. Answer: b

Explanation:

Man	A, B	C, D	E
Woman	R	P, Q, S	T, U
Occupation	ADVOCATES	DOCTORS	TEACHERS

Three teachers in the team are E, T, and U.

But, A, P and U have to be together.

Therefore, A and P are also in the team.

Now, another doctor in the team will be either C or D or Q or S.

But E and Q have to be together.

Therefore, Q is the other doctor of the team.

∴ The members of the team are A, E, P, Q, T and U.

182. Answer: a

Explanation:

Man	A, B	C, D	E
Woman	R	P, Q, S	T, U
Occupation	ADVOCATES	DOCTORS	TEACHERS

We have only three teachers E, T and U.

Since E and Q have to be together.

T and C have to be together. So, we cannot take E and T together as we will get two lady doctors C and Q.

So, we will take U and then either E or T.

If we are taking E and U then we get two lady doctors Q and P, since A, P and U have to be together.

So, we choose the teachers T and U.

Now as C and T have to be together.

And A, P and U have to be together.

So, the resulting team will be A C T P U.

∴ The members of the team are A, C, P, T, and U.

183. Answer: c

Explanation:

Man	A, B	C, D	E
Woman	R	P, Q, S	T, U
Occupation	ADVOCATES	DOCTORS	TEACHERS

E is the only male teacher.

Also, Q and E have to be together.

A, P and U have to be together. So, A and P can not be in the team as we will get U as an extra teacher.

C and T have to be together. So, C cannot be in the team as we will have T as an extra teacher.

D and P cannot go together.

So, the three doctors of the team are D, Q, and S.

Also, B cannot go with D or R.

So, the advocate of the team is R.

∴ The members of the team are D, E, Q, R and S.

184. Answer: a

Explanation:

Man	A, B	C, D	E
Woman	R	P, Q, S	T, U
Occupation	ADVOCATES	DOCTORS	TEACHERS

A, P and U have to be together.

D and P cannot go together. So, D is not the part of the team.

C and T have to be together. C is a doctor and T is a teacher. So, we get two doctors P and C and two teachers T and U.

Also, the three ladies of the team are P, T and U.

Now, one male member that too an advocate is required to form the team.

So, B will be the part of the team.

∴ A, B, C, P, T and U are the members of the team.

185. Answer: b

Explanation:

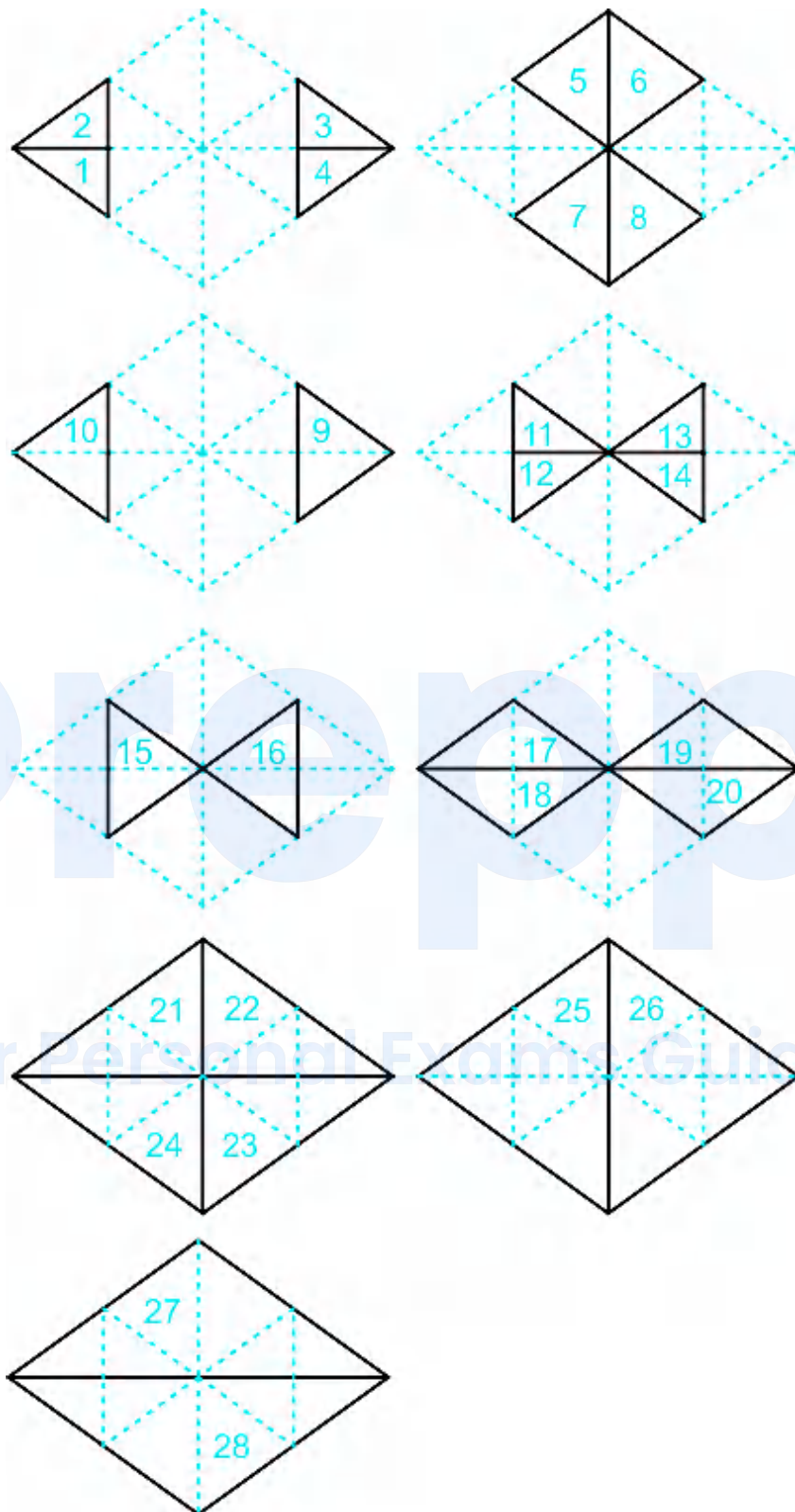
The logic followed here is:

DXCLQZ, XGKNTY and GJMQVX have only consonants.

PFZUBM has one vowel U.

Explanation:

Triangles are - (1) AIH, (2) ABI, (3) ABH, (4) DKE, (5) EKF, (6) DEF, (7) BJC, (8) CJD, (9) GJH, (10) FJG, (11) BIJ, (12) JHI, (13) BHJ, (14) DJK, (15) FKJ, (16) DJF, (17) ABJ, (18) AJH, (19) EJD, (20) EFJ, (21) AJC, (22) AJG, (23) ACG, (24) CJE, (25) EJG, (26) ECG, (27) ACE, (28) AGE.



∴ 28 is the correct answer.

187. Answer: b

Explanation:

Logic followed is:

Numerator is increasing by +5, +10, +20... and denominator is increasing by +11, +22, +44...

So, numerator of the missing term is (9+10) i.e. 19 and denominator is (20+22) i.e. 42.

$\therefore \frac{19}{42}$ is the correct answer.

188. Answer: b

Explanation:

Alphabets	A	B	C	D	E	F	G	H	I	J	K	L	M
Positional value	1	2	3	4	5	6	7	8	9	10	11	12	13
Positional value	26	25	24	23	22	21	20	19	18	17	16	15	14
Alphabets	Z	Y	X	W	V	U	T	S	R	Q	P	O	N

The patterns followed by the letters are:

1st letter:

$G \xrightarrow{+3} J \xrightarrow{+3} M \xrightarrow{+3} P \xrightarrow{+3} S$
 $T \xrightarrow{-2} R \xrightarrow{-2} P \xrightarrow{-2} N \xrightarrow{-2} L$

3rd letter:

The number series 4, 10, 20, 43, 90 should follow the pattern $\times 2 + 1$, $\times 2 + 2$, $\times 2 + 3$, $\times 2 + 4$.

So, 10 is wrong and must be replaced by $(4 \times 2 + 1)$ i.e. 9.

Thus, the term J10R does not fit in the given series. The correct term is J9R.

$\therefore$ J10R is the odd one.

189. Answer: b

Explanation:

Botany is the branch of science which deals with the study of plants.

Similarly, entomology is the branch of science which deals with study of insects.

$\therefore$ 'Insects' is the correct answer.

190. Answer: a

Explanation:

Ogle means 'to look at someone'.

Observe means 'to watch something or someone carefully'.

So, both are synonyms.

Similarly,

Flaunt and display are synonyms.

Flaunt means 'to show something that you are proud of'.

Display means 'to show something'.

∴ Flaunt: Display is the correct answer.

★ Additional Information

- Discern means 'to see or recognise something which is not clear'.
- Perceive means 'to attain awareness or understanding of'.
- Clamour means 'to make loud complaint or demand'.
- Despite means 'without taking notice of or influenced by'.
- Haggle means 'to argue especially about the price of something'.
- Outbid means 'to offer to pay higher price for something, especially in auction'.

191. Answer: c

Explanation:

Radium, Thorium, and Polonium are radioactive elements.

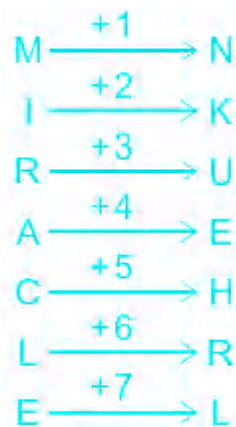
But, Sodium is an alkali metal.

∴ Sodium is the odd one.

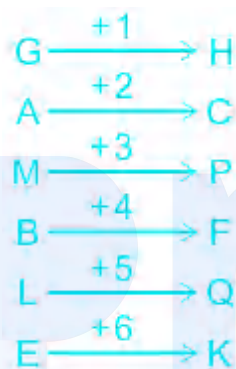
192. Answer: c

Explanation:

Here logic followed is:



Similarly, for GAMBLE,



$\therefore$ HCPFQK is the correct answer.

193. Answer: c

Explanation:

Symbol	S	T	R	I	N	G		P	R	A	I	S	E
Meaning	%	=	*	-	\$	÷		?	*	@	-	%	×

Therefore, GRAPES will be written as ÷* @? × %.

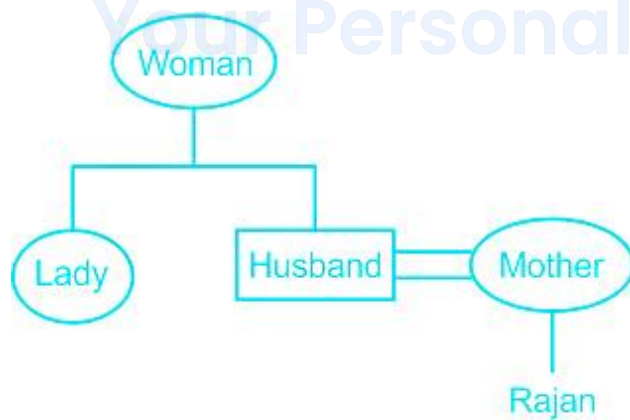
Hence, ÷* @? × % is the correct answer.

194. Answer: a

Explanation:

Symbol in Diagram	Meaning
○	Female
□	Male
==	Married couple
—	Siblings
	Difference of a generation

The possible family tree is



Hence, the lady is aunt of Rajan.

195. Answer: b

Explanation:

L is at the right of M and at third place at the right of N.

N _ M L

K is at the end of the row. Q is seated adjacent to both O and P, O is at the third place at the left of K. J is right next to left of O.

N _ M L J O Q P K

Remaning letter is R which comes at blank space.

N R M L J O Q P K

Hence, J is sitting in the middle.

196. Answer: b

Explanation:

L is at the right of M and at third place at the right of N.

N _ M L

K is at the end of the row. Q is seated adjacent to both O and P, O is at the third place at the left of K. J is right next to left of O.

N _ M L J O Q P K

Remaning letter is R which comes at blank space.

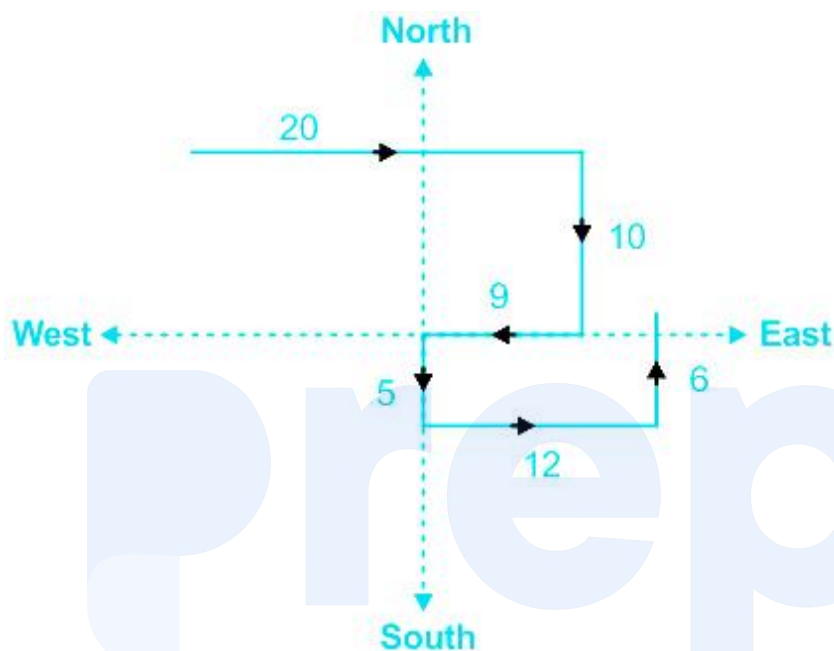
N R M L J O Q P K

Hence, N is at the other end of the row.

197. Answer: c

Explanation:

According to given conditions movement of rats is



Hence, rat is facing north direction.

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198. Answer: a

Explanation:

Symbol	+	-	×	÷
Meaning	×	÷	-	+

Given expression is

$$175 - 25 \div 5 + 20 \times 3 + 10$$

After changing the symbols

$$175 \div 25 + 5 \times 20 - 3 \times 10$$

$$= 7 + 100 - 30$$

$$= 77$$

$\therefore 77$ is the correct answer.

199. Answer: b

Explanation:

Given:

The number of legs is 14 more than twice the number of heads.

Calculation:

Let the number of cows be x and the number of hens be y .

So the total number of heads = $x + y$

According to question

$$4x + 2y = 2(x + y) + 14$$

$$\Rightarrow 4x + 2y = 2x + 2y + 14$$

$$\Rightarrow 2x = 14$$

$$\Rightarrow x = 7$$

Hence, the number of cows is 7.

200. Answer: b

Explanation:

Logic followed is:

In first figure

$$27 = 9 \times 3$$

$$54 = 9 \times 6$$

In second figure

$$42 = 14 \times 3$$

$$84 = 14 \times 6$$

Similarly, in figure 3

$$? = 7 \times 3$$

$$21 = 7 \times 3$$

$$42 = 7 \times 6$$

$\therefore$ 21 is the correct answer.

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