

Section 1. LR / Arrangements

Direction (1 to 5): Study the following sitting arrangement carefully and answer the given questions.

Passage I

Eight friends, P, Q, R, S, T, V, W and Y are sitting around a square table in such a way that four of them sit at four corners of the square while four sit in the middle of each of four sides. The one who sit at four corners faces the centre while those who sit in the middle of the sides faces outside. P who faces the Centre sits third to the right of V. T, who faces Centre, is not an immediate neighbour of V. Only one person sits between V and W. S sits second to the right of Q. Q faces the centre. R is not an immediate neighbour of P.

1. Which of the following statement is true regarding R?

- R is an immediate neighbour of V.
- R faces the centre
- Q sits third to left of R
- R sits exactly between T and S

2. What is the position of T with respect to V.

- Fourth to the left
- Second to the left
- Second to the right
- Third to the left

3. Who sits second to the left of Q?

- V
- Y
- P
- S

4. Who sits third to the left of V?

- S
- P
- T
- Y

5. Four of the following five are alike in a certain way based on the above arrangement and so form a group. Which is the one that does not belong to that group?

- R
- W

- V
- S
- Y

Direction (6-10) Study the following sitting arrangement carefully and answer the given questions.

P, Q, R, S, T, U, V and W are sitting around the circle and are facing the centre. P is second to the right of T who is neighbour of R and V. S is not the neighbour of P. V is the neighbour of U. W is sitting between S and U.

6. Who is an immediate right of V?

- P
- U
- T
- S

7. Which of the following statement is correct?

- P is immediate right of Q
- S is to the immediate left of W
- R is between U and V.
- U is between W and S.

8. Which two of the following are not neighbours?

- UV
- RV
- RP
- QS

9. Who is the immediate neighbour of S?

- U
- V
- Q
- P

10. What is the position of S?

- Between U & V
- Second to the right of P
- Immediate right of W

- NOT

Answer key

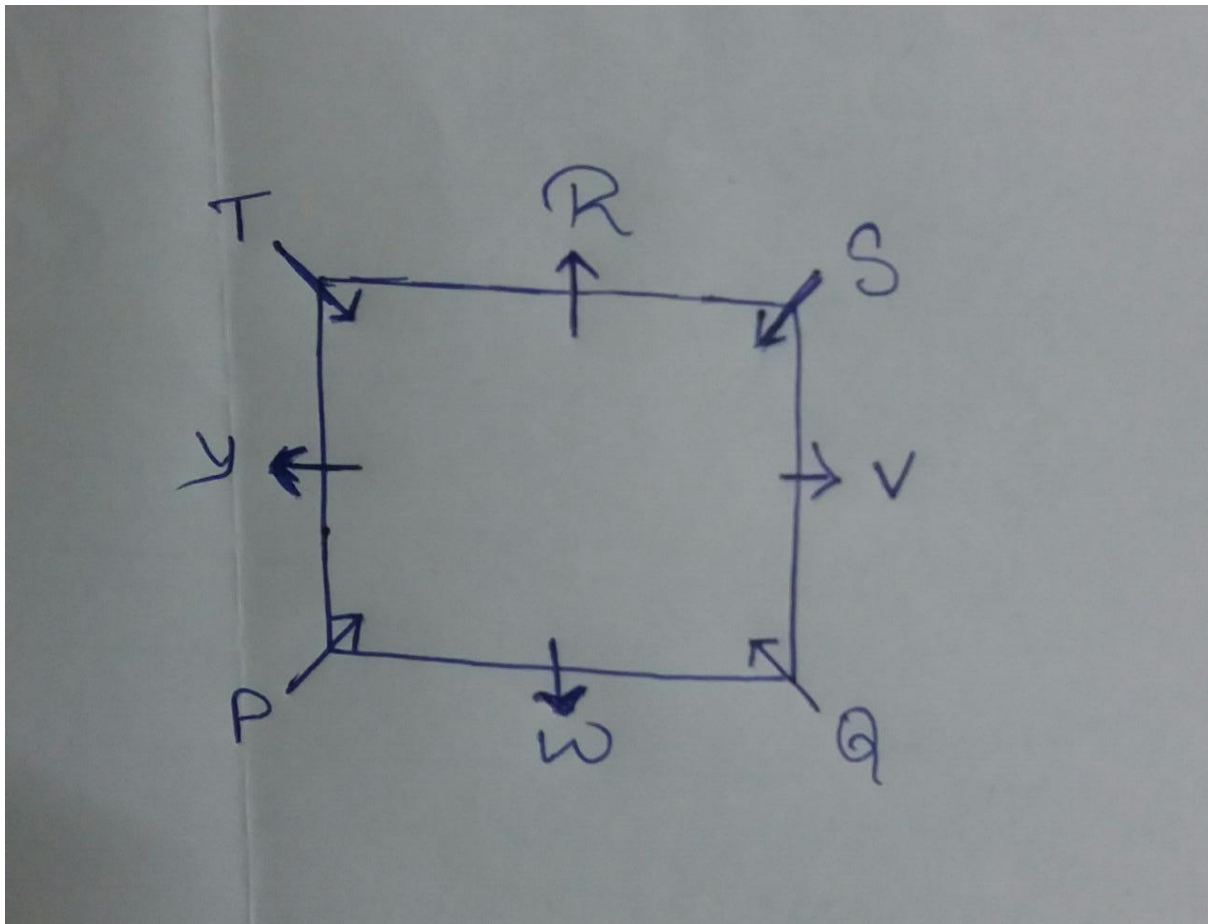
Ans.1 -c "Q sits 3rd to the left of R" is true statement regarding R. We can easily find out from the figure

Ans.2 - d. T is sitting third to the left of V.

Ans.3 -c. P is sitting 2nd to the left of Q.

Ans.4 -c. T is sitting third to the left of V.

Ans.5 -d. Except S in the option . Everyone else is facing outside.



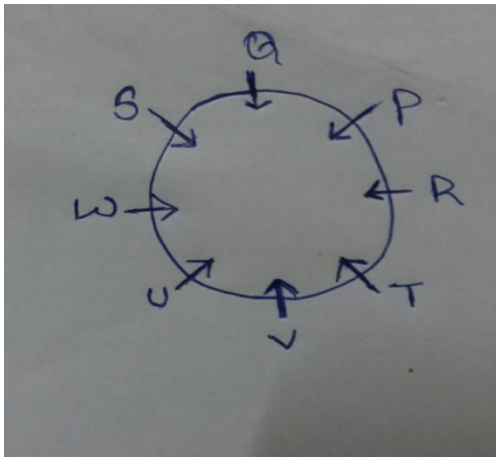
Ans.6 - c. T is sitting immediate right of V.

Ans.7 - b. From the figure we can easily get that S is sitting immediate left of W.

Ans.8 - b. In the given options only R and V are not the immediate neighbours.

Ans.9 - c. In the figure we can see W and Q are the immediate neighbours of S.

Ans. 10 – b. S is sitting second to the right of P.



Directions (6-10): Study the following information carefully and answer the questions given below.

Eight persons A, B, C, D, E, F, G and H are sitting around a circular table but not necessarily in the same order. Four of them are facing towards the center and remaining is facing opposite to the center.

B sits second to the right of D. F sits third to the left of C. E sits opposite to G who is an immediate neighbour of C and B. A doesn't sit opposite to F. F faces outside the center and sits third to the right of A. A and F are facing opposite direction. Immediate neighbours of A are facing same direction which is opposite to A. B and C are facing same direction.

6) Who among the following person sits immediate right of B?

- A) the one who sits second to the right of H
- B) the one who sits immediate left of G
- C) A
- D) E
- E) None of these

7) Who among the following person is an immediate neighbour of A?

- A) D
- B) the one who sits immediate left of D
- C) C

D) the one who sits immediate left of C

E) None of these

8) Who sits third to the right of the person who sits opposite to F?

A) A

B) B

C) D

D) H

E) None of these

9) Which of the following is first person sits third to the right of the second person?

A) DF

B) AG

C) FC

D) EC

E) None of these

10) Four of the following five in such a way to form a group, which one of the following does not belong to the group?

A) the one who sits immediate left of G

B) A

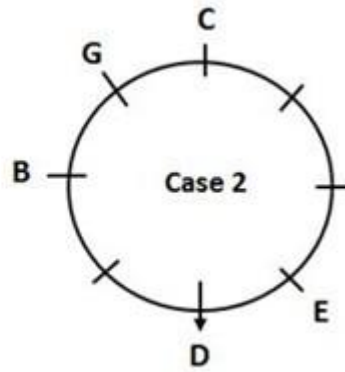
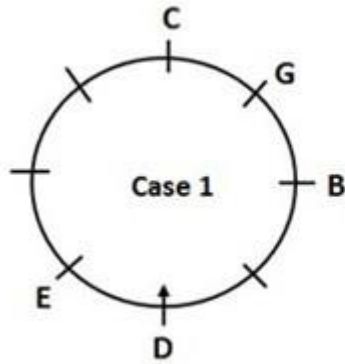
C) the one who sits immediate left of F

D) D

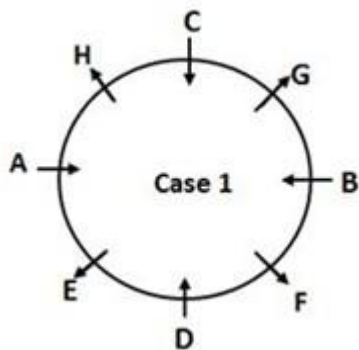
E) the one who sits second to the right of H

Directions (6-10):

- B sits second to the right of D.
- E sits opposite to G who is an immediate neighbour of C and B.



- F sits third to the left of C.
- A doesn't sit opposite to F. So A should sit opposite to B in both the cases.
- F faces outside the center and sits third to the right of A.
- A and F facing opposite direction. This statement is invalid for case 2. So case 2 is eliminated.
- Hence A facing towards the center.
- Immediate neighbours of A are facing same direction which is opposite to A. So both are facing opposite to the center.
- B and C are facing same direction. Four of them only facing center from this we can fix the direction of all the person and the final arrangement is



6) Answer: A

7) Answer: B

8) Answer: B

9) Answer: D

10) Answer: E

Section – Quant/Percentage

15 min Test

Q1. Two friends, Akash & Beenu had some candies each. One of them had 15 candies more than the other. The candies with Akash was 60% of the total candies with them. How many candies did each have?

A. 40, 25B. 47, 32C. 45, 30D. 49, 34

Answer & Explanation

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Sol : Option C

Explanation Let the candies with be $(x + 15)$ and x .

Therefore, $x + 15 = 60/100(x + 15 + x)$

$$(x + 15) = 3/5(2x + 15)$$

$$5x + 75 = 6x + 45$$

$$x = 30$$

So, the marks of two students are 45 and 30.

Q2. A fruit seller had some oranges. He sells 30% oranges and still has 140 mangoes. Originally, he had:

A. 288 orangesB. 300 orangesC. 672 orangesD. 200 oranges

Answer & Explanation

Sol : Option D

Explanation: Suppose originally he had x oranges.

Then, $(100 - 30)\%$ of $x = 140$.

$$70/100 x = 140$$

$$x = (140 \times 100)/70 = 200.$$

Q3. What percentage of numbers from 1 to 30 has 1 or 9 in the unit's digit?

A. 12B. 15C. 20D. 22

Answer & Explanation

Sol : Option C

Explanation: Such numbers from 1 to 30 are 1, 9, 11, 19, 21, 29

Number of such numbers = 6

Required percentage is $(6/30 \times 100)\% = 20\%$

Q4. If $M = y\%$ of z and $B = z\%$ of y , then which of the following must be true?

A. M is lesser than N. B. M is more than N. C. Relation between M and N cannot be determined. D. None of these

Answer & Explanation

Sol : Option D

Explanation: $y\% \text{ of } z = (y/100 \times z) = (z/100 \times y) = z\% \text{ of } y$

A = B.

5. In ABC College, 63% of students are less than 20 years of age. The number of students more than 20 years of age is $\frac{2}{3}$ of number of students of 20 years of age which is 42. What is the total number of students in the ABC College?

A. 75 B. 90 C. 130 D. 200

Answer & Explanation

Sol : Option D

Explanation: Let the total number of students be x.

Then, Number of students more than 20 years of age = $(100 - 63)\%$ of x = 37% of x.

37% of x = 42 + $\frac{2}{3}$ of 42

$\frac{37}{100}x = 74$

x = 200

Must Read Percentages Articles

Percentages: Concepts & Tricks

Percentages: Solved Examples

Percentages Practice Problems: Level 01

Percentages Practice Problems: Level 02

Q.6. A student erroneously multiplied a number by $\frac{2}{5}$ instead of $\frac{5}{2}$. What is the percentage error in the calculation?

A. 24% B. 54% C. 74% D. 84%

Answer & Explanation

Sol : Option D

Explanation: Let the number be 100. $\frac{2}{5}$ of 100 is 40 while $\frac{5}{2}$ of 100 is 250.

Now the difference is 210 on a base of 250. Therefore, percentage difference is $\frac{210}{250}$ into 100 = 84%.

Q.7. The sum of the first six terms of an AP is 48 and the common difference is 2. What is the 4th term?

A. 2400 B. 2700 C. 3200 D. 2100

Answer & Explanation

Sol : Option A

Explanation: Number of valid votes = 75% of 8000 = $\frac{1}{4}$ or $\frac{5}{20}$

Valid votes polled by other candidate = $\frac{6}{20}$ of 8000

= $(\frac{6}{20} * 8000) = 2400$.

Q8. Three candidates, Ajay, Bijoy & Chandu contested an election and received 1800, 3300 and votes 3900 respectively. What percent of the total votes did A get?

A. 20%B. 40%C. 45%D. 70%

Answer & Explanation

Sol : Option A

Explanation: Total no. of votes polled = $(1800 + 3300 + 3900) = 9000$.

Required percentage = $(1800/9000 * 100)\% = 20\%$.

Q9. A Stationery seller had some Pens, Sharpeners, Erasers & Pencils. He sells 65% of the total units and still has 175 units. Originally, he had:

A. 588 unitsB. 400 unitsC. 272 unitsD. 500 units

Answer & Explanation

Sol : Option D

Explanation: Suppose originally he had x units.

Then, $(100 - 65)\%$ of $x = 175$.

$\frac{35}{100} x = 175$

$x = 500$

Q10. The total population of a village increased from 1,80,00 to 22, 500 in a decade. The average percentage increase of population per year of that village is:

A. 2.37%B. 2.5%C. 3. 6%D. 6.75%

Section C Assignment

Percentages

Model 1: Basic Percentage

1. Sameer spends 20% of his monthly salary on house-rent, 25% on food, 10% on transportation, 15% on education of his children and 18% on household expenses. He saves the remaining amount of ₹ 4800. What is his monthly salary? 1) ₹ 40000 2) ₹ 28000 3) ₹ 32000 4) ₹ 36000 5) None of these

2. Ishan spent ₹ 35,645 on buying a bike, ₹ 24,355 on buying a television, and the remaining 20% of the total amount he had as cash with him. What was the total amount? 1) ₹ 60,000 2) ₹ 72,000 3) ₹ 75,000 4) ₹ 80,000 5) None of these

3. Sujatha invests 7% i.e. ₹ 2170, of her monthly salary in mutual funds. Later she invests 18% of her monthly salary in recurring deposits. Also she invests 6% of her salary on NSC's. What is the total annual income invested by Sujatha?

1) ₹ 125320 2) ₹ 113520 3) ₹ 135120 4) ₹ 115320 5) None of these

4. Sonali invests 15% of her monthly salary in insurance policies. She spends 55% of her monthly salary in shopping and on household expenses. She saves the remaining amount of ₹ 12750. What is Sonali's monthly income?

1) ₹ 42,500 2) ₹ 38,800 3) ₹ 40,000 4) ₹ 35,500 5) None of these

5. Gaurav spends 40% of the amount he received from father on hostel expenses, 20% on books and stationery and 50% of the remaining on transport. He saves ₹ 450 which is half the remaining amount after spending on hostel expenses, books and stationery and transport. How much money did he get from his father?

1) ₹ 3000 2) ₹ 6000 3) ₹ 4500 4) ₹ 5000 5) None of these

Model 2: Percentage of Percentage

6. Prerna decided to donate 30% of her monthly income to an orphanage. But on the day of donation, she changed her mind and donated ₹ 4200, which is 70% of what she had decided earlier. What should be the actual donation as per her earlier decision?

1) ₹ 8000 2) ₹ 5000 3) ₹ 6,000 4) Cannot be determined 5) None of these

7. Praveen decided to donate 15% of his salary to a charity. On the day of donation he changed his mind and donated ₹ 1,896, which was 80% of

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what he had decided earlier. How much is

Praveen's salary? 1) ₹ 18,500 2) ₹ 10,250 3) ₹ 15,800 4) Cannot be determined 5) None of these

8. The price of a car is ₹ 5,00,000. It was insured to 90% of its price. The car got completely damaged in an accident and the insurance company paid 80% of the insured amount. That is the difference between the price of the car and the amount of insurance received? 1) ₹ 1,40,000 2) ₹ 40,000 3) ₹ 70,000 4) ₹ 80,000 5) None of these

9. The price of a car is ₹ 325000. It was insured to 85% of its price. The car was damaged completely in an accident and the insurance company paid 90% of the insurance. What was the difference between the price of the car and the amount received? 1) ₹ 32500 2) ₹ 48750 3) ₹ 76375 4) ₹ 81250 5) None of these

10. 15% of 45% of a number is 105.3. What is 24% of that number?

1) 385.5 2) 374.4 3) 390 4) 375 5) None of these

11. 20% of 65% of a number is 130. What is 54% of that number?

1) 250 2) 540 3) 260 4) 275 5) None of these

Model 3: Election Problem

12. In an election between two candidates, the winner secured 58% of the total votes cast and wins by a majority of 2400 votes. How many votes did the loser get?

1) 6300 2) 7200 3) 3700 4) 4400 5) None of these

13. In an election between two candidates, one gets 72% of the total votes. If the total votes are 8200, by how many votes did the winner win the election?

1) 1835 2) 1722 3) 3608 4) 4428 5) None of these

14. In a college election between two students, 10% of the votes cast are invalid. The winner gets 70% of the valid votes and defeats the loser by 1800 votes. How many votes were totally cast?

1) 1800 2) 7200 3) 5000 4) 3600 5) None of these

15. In a college election fought between two candidates, one candidate got 55% of the total valid votes. 15% of the votes were invalid. If the total votes were 15,200, what is the number of valid votes the other candidate got?

1) 7106 2) 6840 3) 8360 4) 5814 5) None of these

Model 4: A Is What Percent of B

16. In an examination, Ramesh scored 30% less than Suresh and Mahesh scored 20% less than

Suresh. Ramesh's score is what per cent of Mahesh's score?

1) 80% 2) 70% 3) 40% 4) 87.5% 5) None of these

17. 65 is what % of 50?

1) 250 2) 240 3) 160 4) 130 5) None of these

Model 5: A Is What Percent More/Less than B

18. If A's salary is 25% more than B's salary, then by what per cent is B's salary less than A's salary?

1) 25% 2) 20% 3) 16.66% 4) Cannot be determined 5) None of these

19. If Arjun's salary is 20% more than that of Bheem, then how much percent is Bheem's salary less than that of Arjun?

1) 16.66% 2) 20% 3) 40% 4) 10% 5) None of these

20. The sale of Company N is 40% less than that of Company T. Then by what per cent is the sale of company T more than that of N?

1) 66% 2) 20% 3) 40% 4) 10% 5) None of these

21. If A's salary is 25% less than B's salary, then B's salary is what % more than A's salary?

1) Cannot be determined 2) 21 3) 33.33 4) 25 5) 20

A's salary is 20% lower than B's salary, which is 15% lower than C's salary. By how much percent is C's salary more than A's salary?

Model 6: Percentage Change

22. The profit made by a company in the present year is ₹ 15, 00,000. Two years ago, the profit made by the same company was ₹ 24, 00,000. What is the percentage change in the profit made by the company?

- 1) 66.66% inc 2) 66.66% dec 3) 37.5% inc 4) 37.5% dec 5) None of these

Model 7: Effective Percentage Change

23. The length of a rectangle increased by 40% and its breadth increased by 20%. What will be the percentage change in the area of the rectangle?

- 1) 50% inc 2) 10% inc 3) 44% inc 4) 68% inc 5) None of these

24. The population of a town was 48600. It increased by 25% in the first year and decreased by 8% in the second year. What will be the population of the town at the end of two years?

- 1) 65610 2) 55580 3) 60750 4) 64850 5) None of these

25. The revenue of a shop in the month of March was ₹ 40,000. In the month of April, the shopkeeper announced a discount of 20% and hence his sales went up by 20%. What will be the revenue in the month of April?

- 1) ₹ 40,000 2) ₹ 50,000 3) ₹ 38,400 4) ₹ 64,800 5) None of these

26. When the cost of petroleum increases by 40%, a man reduces his annual consumption by 20%. Find the percentage change in his annual expenditure on petroleum.

- 1) 20% 2) 16% 3) 12% 4) 40% 5) None of these

27. The price of sugar increased by 25%. What should be the percentage decrease in the consumption of sugar by a family, such that their expenditure on sugar remains the same?

- 1) 20% 2) 16% 3) 12% 4) 40% 5) None of these

28. If the cost of coriander sold is increased by 33.33%. What should be the % decrease in consumption to keep expenditure same?

- 1) 29% 2) 25% 3) 30% 4) 25% 5) None of these

Model 8: Miscellaneous

29. A student has to secure 40% marks to pass an examination. He secured 75 marks and was declared FAIL 45 marks. Find the maximum marks set for the examination.

- 1) 600 2) 200 3) 100 4) 300 5) None of these

30. In an examination, the cut off mark is 40% and a student is declared to be failed by 4 marks when he scored 38%. What is the maximum score a student can get in this exam?

- 1) 100 2) 300 3) 400 4) 200 5) None of these

31. A student has to secure 30% marks to get through. If he gets 40 marks and fails by 20 marks, find the maximum marks set for the examination.

- 1) 600 2) 200 3) 100 4) 300 5) None of these

32. 75% of a number when added to 75 becomes the number itself. The number is:

- 1) 150 2) 200 3) 225 4) 300 5) None of these

33. Difference between 54% of a number and 63% of the same number is 72. What is 80% of that number?

1) 720 2) 600 3) 640 4) 900 5) None of these

34. If 25% of a number is subtracted from a second number, the second number reduces to its five - sixth. What is the ratio of the first number to the second number?

1) 1:3 2) 2:3 3) 3:2 4) Data inadequate 5) None of these

35. 75% of a number is equal to four-fifths of another number. What is the ratio between the first number and the second number?

1) 5:3 2) 15:16 3) 3:5 4) 16:15 5) None of these

36. Two-fifth of one-third of three-seventh of a number is 15. What is 40% of that number?

1) 72 2) 84 3) 136 4) 140 5) None of these

37. In a test consisting of 300 questions, Deepika answered 40% of the first 100 questions correctly. What per cent of the remaining 200 questions does she need to answer correctly for her grade on the entire exam to be 50%?

1) 75% 2) 55% 3) 60% 4) Cannot be determined 5) None of these

38. In a class of 50 students and 5 teachers, each student got sweets that are 12% of the total number of students and each teacher got sweets that are 20% of the total number of students. How many sweets were there?

1) 345 2) 365 3) 330 4) 350 5) None of these

39. The income of A is 150% of the income of B and the income of C is 120% of the income of A. If the total income of A, B and C together is ` 86,000, what is C's income?

1) ` 30,000 2) ` 32,000 3) ` 20,000 4) ` 36,000 5) None of these

Answers

1 - 1 2 - 3 3 - 4 4 - 1 5 - 3 6 - 3 7 - 3 8 - 1 9 - 3 10 - 2 11 - 2 12 - 1 13 - 3 14 - 3 15 - 4 16 - 4
17 - 4 18 - 2 19 - 1 20 - 1
21 - 3 22 - 4 23 - 4 24 - 5 25 - 3 26 - 3 27 - 1 28 - 4 29 - 4 30 - 4 31 - 2 32 - 4 33 - 3 34 - 2
35 - 4 36 - 5 37 - 2 38 - 4 39 - 4