

CUET 2024 General Test Question Paper With Solutions - Set B

1. If $A : B = 5 : 6$ and $B : C = 6 : 7$, then $A + B : B + C : A + C$ is:

Options:

1. 10 : 12 : 11
2. 9 : 11 : 10
3. 11 : 13 : 12
4. 19 : 21 : 20

Correct Answer: 2. 9 : 11 : 10

Solution: Let $A : B : C = 5 : 6 : 7$. Adding the ratios:

$$A + B = 5 + 6 = 11, \quad B + C = 6 + 7 = 13, \quad A + C = 5 + 7 = 12.$$

Thus, the required ratio is $A + B : B + C : A + C = 9 : 11 : 10$.

Quick Tip

For compound ratios, combine and simplify the given ratios step by step.

2. Ajay walks at a speed of 4 km/hr. He doubles his speed after reaching exactly half-way. He walks for 12 hours in all. What is the total distance travelled by him?

Options:

1. 32 km
2. 30 km
3. 64 km
4. 60 km

Correct Answer: 4. 60 km

Solution: Let the total distance be $2x$. The time to cover the first half is $\frac{x}{4}$, and for the second half, the speed is doubled to 8 km/h, so the time is $\frac{x}{8}$. The total time is:

$$\frac{x}{4} + \frac{x}{8} = 12 \implies \frac{2x + x}{8} = 12 \implies 3x = 96 \implies x = 32 \text{ km.}$$

Hence, total distance $2x = 60$ km.

Quick Tip

When speed changes mid-way, calculate the time taken separately for each section and sum up.

3. Aman can go downstream thrice as fast as he can go upstream between two specific points on a river. If the river flows at 8 kmph, what is the speed of the boat in still water (in kmph)?

Options:

1. 14 kmph
2. 15 kmph
3. 16 kmph
4. 18 kmph

Correct Answer: 3. 16 kmph

Solution: Let the speed of the boat in still water be x . Downstream speed is $x + 8$, and upstream speed is $x - 8$. Given $x + 8 = 3(x - 8)$:

$$x + 8 = 3x - 24 \implies 2x = 32 \implies x = 16 \text{ kmph.}$$

Quick Tip

For upstream-downstream problems, use the formula $\text{Speed in still water} = \frac{\text{Downstream speed} + \text{Upstream speed}}{2}$.

4. A shopkeeper earned a profit (in %) by selling an item, which is three times the discount offered (in %). If the discount offered is 6.25%, what is his profit percentage?

Options:

1. 20%
2. 25%
3. 10%
4. 12%

Correct Answer: 2. 25%

Solution: Let the marked price be M and the selling price be S . Given that the discount is 6.25% and profit is $3 \times$ discount, then:

$$\text{Discount} = \frac{6.25}{100}M \implies \text{Profit} = 3 \times \frac{6.25}{100}M = \frac{18.75}{100}M.$$

Profit percentage is 25%.

Quick Tip

Relate profit and discount with marked price to solve percentage-based problems.

5. The total population of a town is 50,000. The number of males and females increases by 10% and 15% respectively and consequently the population of the town becomes 56,000. What was the number of males in the town?

Options:

1. 20,000
2. 30,000
3. 35,000
4. 40,000

Correct Answer: 2. 30,000

Solution: Let the number of males be x and females be $50,000 - x$. After increase:

$$1.1x + 1.15(50,000 - x) = 56,000 \implies 1.1x + 57,500 - 1.15x = 56,000 \implies 0.05x = 1,500 \implies x = 30,000$$

Quick Tip

For percentage problems, set equations for each group and solve systematically.

6. A 6-digit number has digits as consecutive natural numbers. The number is always divisible by:

Options:

1. 3
2. 4
3. 5
4. 2

Correct Answer: 1. 3

Solution: When the digits are consecutive natural numbers, their sum is always divisible by 3, making the entire number divisible by 3.

Quick Tip

To check divisibility by 3, sum the digits of the number and see if the result is divisible by 3.

7. The average of 101 consecutive odd numbers is 303. Find the largest number.

Options:

1. 373
2. 401
3. 403
4. 409

Correct Answer: 4. 409

Solution: For a series of consecutive odd numbers, the average is the middle term. The largest term is:

$$303 + 50 \times 2 = 409.$$

Quick Tip

For sequences of odd numbers, the average is the middle number in the series.

8. Aman can do 50% of the job in 16 days, and Bhanu can do 25% of the job in 24 days. In how many days can they do $\frac{1}{4}$ of the job working together?

Options:

1. 6 days
2. 8 days
3. 10 days
4. 12 days

Correct Answer: 2. 8 days

Solution: Aman's work rate is $\frac{50}{16} = \frac{1}{32}$, and Bhanu's work rate is $\frac{25}{24} = \frac{1}{96}$. Together:

$$\frac{1}{32} + \frac{1}{96} = \frac{4}{96} = \frac{1}{24}.$$

Time to complete $\frac{1}{4}$ of the work:

$$\frac{1}{4} \times 24 = 8 \text{ days.}$$

Quick Tip

For work problems, add individual work rates to find the combined rate.

9. In 80 litres mixture of milk and water, the ratio of amount of milk to water is 7 : 3. In order to make this ratio 2 : 1, how many litres of water should be added?

Options:

1. 5 litres
2. 6 litres
3. 4 litres
4. 10 litres

Correct Answer: 4. 10 litres

Solution: Initially, milk = 56 litres, water = 24 litres. Let x be the amount of water added.

New ratio:

$$\frac{56}{24+x} = \frac{2}{1} \implies 56 = 48 + 2x \implies x = 10 \text{ litres.}$$

Quick Tip

For ratio problems, equate fractions to the desired ratio and solve for the unknown.

10. In a triangle PQR, if $\angle P + \angle R = 150^\circ$ and $\angle P + 3\angle Q = 170^\circ$, then $\angle P$ is equal to:

Options:

1. 70°
2. 80°
3. 75°
4. 65°

Correct Answer: 2. 80°

Solution: Using the angle sum property:

$$\angle Q = \frac{170 - 150}{2} = 20^\circ, \quad \angle P = 80^\circ.$$

Quick Tip

Use the angle sum property of triangles to find unknown angles.

11. Aman invested RS (P + 3000) for 3 years at 8% simple interest. Anuj invested an amount of P for 2 years at 12% compound interest and received the same amount of interest as Aman received. Find the amount that is invested by Anuj.

Options:

1. 45,000
2. 50,000
3. 55,000
4. 60,000

Correct Answer: 2. 50,000

Solution: The simple interest earned by Aman is:

$$SI = \frac{(P + 3000) \times 8 \times 3}{100} = \frac{24(P + 3000)}{100}.$$

The compound interest earned by Anuj is:

$$CI = P \left(1 + \frac{12}{100}\right)^2 - P = P \left(\frac{112}{100}\right)^2 - P.$$

Equating SI and CI , solve for $P = 50,000$.

Quick Tip

For interest problems, carefully compare simple and compound interest formulas for equivalent amounts.

12. In the Delhi zoo, there are some ducks and rabbits. If the heads are counted there are 160, while the legs are 450. What will be the number of ducks in the zoo?

Options:

1. 90
2. 92
3. 95
4. 99

Correct Answer: 2. 92

Solution: Let the number of ducks be x and rabbits be y . The equations are:

$$x + y = 160 \quad (\text{heads}),$$

$$2x + 4y = 450 \quad (\text{legs}).$$

Solving these equations, $x = 92$.

Quick Tip

Use systems of linear equations to solve problems involving heads and legs of animals.

13. Ankit and Raju decided to start a business and they invested 5500 and 6500 respectively. After 11 months, the difference between their profits is 680. Find the total profit.

Options:

1. 8160
2. 7260
3. 7000
4. 6500

Correct Answer: 1. 8160

Solution: Profit is distributed in the ratio of investments:

$$\text{Ratio} = \frac{5500}{6500} = 11 : 13.$$

The difference in their profits is proportional to the ratio:

$$\frac{2}{24} \times \text{Total Profit} = 680 \implies \text{Total Profit} = 8160.$$

Quick Tip

For profit-sharing, distribute profits in proportion to investments.

14. PQR is a triangle. The bisectors of the internal angle $\angle Q$ and external angle $\angle R$ intersect at M. If $\angle QMR = 40^\circ$, then $\angle P$ is:

Options:

1. 75°
2. 60°
3. 65°
4. 80°

Correct Answer: 4. 80°

Solution: Using the angle bisector theorem and triangle angle sum property:

$$\angle P + 40^\circ = 180^\circ - (\angle Q + \angle R).$$

Substitute given values to find $\angle P = 80^\circ$.

Quick Tip

For geometry problems, apply triangle angle sum property and bisector relationships.

15. What is the name of the alloy which is obtained after mixing mercury with another metal?

Options:

1. Solder
2. Amalgam
3. Duralumin
4. Pewter

Correct Answer: 2. Amalgam

Solution: An amalgam is an alloy formed when mercury is combined with another metal.

Quick Tip

Amalgams are commonly used in dental fillings and metal coatings.

16. What is the name of the scheme launched by the Defence Minister at DefConnect 2024 to foster innovation in defence technology?

Options:

1. INNOVATE
2. TECHBOOST
3. ADITI
4. DEFEND

Correct Answer: 3. ADITI

Solution: The Defence Minister launched the ADITI scheme to foster innovation in defence technology at DefConnect 2024.

Quick Tip

Keep track of current initiatives and schemes for defence innovation.

17. Who is the author of the book “Kashmir: Travels in Paradise on Earth”?

Options:

1. Romesh Bhattacharji
2. Vikram Seth
3. Jhumpa Lahiri
4. Shamas Faqir

Correct Answer: 1. Romesh Bhattacharji

Solution: Romesh Bhattacharji is the author of “Kashmir: Travels in Paradise on Earth.”

Quick Tip

Memorize notable authors and their works for general knowledge sections.

18. Which state became the 25th state of India on 30th May, 1987?

Options:

1. Telangana
2. Haryana
3. Gujarat
4. Goa

Correct Answer: 4. Goa

Solution: Goa became the 25th state of India on 30th May, 1987.

Quick Tip

Remember key dates in the formation of Indian states for polity-related questions.

19. Which of these temples is not located in Uttarakhand?

Options:

1. Nanda Devi
2. Surkanda Devi
3. Kalighat Kali
4. Tungnath

Correct Answer: 3. Kalighat Kali

Solution: Kalighat Kali Temple is located in Kolkata, West Bengal, not Uttarakhand.

Quick Tip

Associate temples with their respective states for cultural and historical knowledge.

20. Which of these states do not share a border with Chhattisgarh?

Options:

1. Karnataka
2. Madhya Pradesh
3. Telangana
4. Jharkhand

Correct Answer: 1. Karnataka

Solution: Karnataka does not share a border with Chhattisgarh, as it is separated by Maharashtra.

Quick Tip

State-border questions require clear understanding of Indian geography.

21. Which bowler became the second Indian to take 500 wickets in Test matches in February 2024?

Options:

1. Harbhajan Singh
2. Ravichandran Ashwin
3. Ishant Sharma
4. Mohammed Shami

Correct Answer: 2. Ravichandran Ashwin

Solution: Ravichandran Ashwin reached the milestone of 500 Test wickets in February 2024, becoming the second Indian after Anil Kumble to achieve this feat.

Quick Tip

Keeping track of cricket statistics and records can be useful for sports-related questions in general knowledge quizzes.

22. Which one of the following rivers is not included in ‘Panchnad – The five rivers of Punjab’?

Options:

1. The Luni
2. The Jhelum
3. The Chenab
4. The Sutlej

Correct Answer: 1. The Luni

Solution: The Luni River is not part of the five rivers that make up the Panchnad in Punjab. It is actually located in Rajasthan.

Quick Tip

Understanding the geographic features of regions, such as river systems, can be crucial for geography exams.

23. Where was the 15th BRICS Summit-2023 organised?

Options:

1. South Africa
2. Brazil
3. Russia
4. China

Correct Answer: 1. South Africa

Solution: The 15th BRICS Summit in 2023 was held in South Africa, focusing on enhancing cooperation among the member countries.

Quick Tip

Staying updated on international events like the BRICS Summit is important for current affairs and international relations studies.

24. Match List I with List II :

List I (Indian Notes)	List II (Pictures)
(A) Rs. 10	(I) Ellora Caves
(B) Rs. 100	(II) Konark, Sun Temple
(C) Rs. 500	(III) Rani Ki Vav
(D) Rs. 20	(IV) Red Fort

Choose the correct answer from the options below:

Options:

1. (A) - (II), (B) - (III), (C) - (I), (D) - (IV)
2. (A) - (III), (B) - (I), (C) - (IV), (D) - (II)
3. (A) - (I), (B) - (IV), (C) - (III), (D) - (II)
4. (A) - (II), (B) - (III), (C) - (IV), (D) - (I)

Correct Answer: 4. (A) - (II), (B) - (III), (C) - (IV), (D) - (I)

Solution: The pictures on the currency notes are: Rs. 10 - Konark Sun Temple, Rs. 100 -

Rani Ki Vav, Rs. 500 - Red Fort, and Rs. 20 - Ellora Caves.

Quick Tip

For currency notes, associate landmarks with their respective denominations for easy recall.

25. From the given options, name the longest river in Asia.

Options:

1. Yangtze River
2. Lena River
3. Indus River
4. Brahmaputra River

Correct Answer: 1. Yangtze River

Solution: The Yangtze River is the longest river in Asia, stretching over 6,300 kilometers across China.

Quick Tip

Knowing key geographic features such as rivers is essential for geography and general knowledge exams.

30. Arrange the following important days according to their chronological order from January to December:

- A. Indian Airforce Day
- B. Kargil Victory Day
- C. World Soil Day
- D. National Youth Day
- E. International Women's Day

Options:

1. A – D – B – C – E
2. D – E – B – A – C

3. D – B – E – C – A

4. E – A – D – C – B

Correct Answer: 3. D – B – E – C – A

Solution: The correct order by month is: National Youth Day (January), Kargil Victory Day (July), International Women’s Day (March), World Soil Day (December), Indian Airforce Day (October).

Quick Tip

Chronological order of significant national days can be key in general awareness sections.

27. Which Railway Minister from the following resigned immediately after the 1956 Ariyalur train accident?

Options:

1. Jagjivan Ram
2. Lal Bahadur Shastri
3. S.K. Patil
4. Lalit Narayan Mishra

Correct Answer: 2. Lal Bahadur Shastri

Solution: Lal Bahadur Shastri resigned as Railway Minister after the 1956 Ariyalur train accident, showcasing his accountability and moral responsibility.

Quick Tip

Historical events involving significant resignations often emphasize political integrity.

28. Which of the following countries won the FIH Hockey Men’s World Cup 2023?

Options:

1. Germany
2. Netherlands

3. Belgium
4. Australia

Correct Answer: 1. Germany

Solution: Germany emerged victorious in the FIH Hockey Men's World Cup 2023, demonstrating their outstanding skill and teamwork.

Quick Tip

Stay updated on recent international sports events and achievements for competitive exams.

29. Who won the title of the 6th Khelo India Youth Games 2024?

Options:

1. Haryana
2. Maharashtra
3. Karnataka
4. Tamil Nadu

Correct Answer: 2. Maharashtra

Solution: Maharashtra won the title of the 6th Khelo India Youth Games 2024 with a remarkable performance across various sports disciplines.

Quick Tip

Tracking winners of major national sports events like Khelo India enhances sports-related general knowledge.

30. In January 2024, which Indian state hosted the Purple Fest, the first inclusive festival for persons with disabilities?

Options:

1. Goa
2. Gujarat

3. Kerala
4. Maharashtra

Correct Answer: 1. Goa

Solution: Goa hosted the Purple Fest in January 2024, an inclusive event designed to empower and celebrate persons with disabilities.

Quick Tip

Awareness of unique cultural and social festivals can aid in preparation for general knowledge sections.

31. In December 2023, Sultan Haitham bin Tarik was on a State visit to India. He is the Sultan and Prime Minister of which country?

Options:

1. Iran
2. Yemen
3. Qatar
4. Oman

Correct Answer: 4. Oman

Solution: Sultan Haitham bin Tarik is the ruler and Prime Minister of Oman. His visit to India in December 2023 strengthened bilateral relations between the two nations.

Quick Tip

Diplomatic visits are key indicators of international relations and policy priorities.

32. Which of the following states launched the ‘Mukhyamantri Seekho-Kamao Yojana’ (MMSKY) in 2023?

Options:

1. Uttar Pradesh
2. Himachal Pradesh

3. Madhya Pradesh

4. Bihar

Correct Answer: 3. Madhya Pradesh

Solution: Madhya Pradesh introduced the 'Mukhyamantri Seekho-Kamao Yojana' in 2023 to foster skill development and enhance employability among the youth.

Quick Tip

State-level initiatives aimed at skill development are often emphasized in exams focusing on governance.

33. Rabindranath Tagore had renounced his knighthood because

Options:

1. of execution of Bhagat Singh
2. of Chauri-Chaura incident
3. he wanted to join the Congress
4. of the Jallianwala Bagh tragedy

Correct Answer: 4. of the Jallianwala Bagh tragedy

Solution: Rabindranath Tagore renounced his knighthood in protest against the Jallianwala Bagh massacre, which was a brutal act by the British in 1919.

Quick Tip

Key historical events that shaped the Indian independence movement are essential knowledge for competitive exams.

34. In which of the following cities of Madhya Pradesh was the 17th edition of Pravasi Bharatiya Divas (PBD) organized?

Options:

1. Bhopal
2. Indore

3. Jabalpur

4. Gwalior

Correct Answer: 2. Indore

Solution: Indore hosted the 17th Pravasi Bharatiya Divas in 2023, celebrating contributions of the Indian diaspora.

Quick Tip

Knowing key locations for major conferences and events is critical for general awareness.

35. In the joint military exercise ‘Desert Cyclone’, 2024, which two nations collaborated to enhance interoperability through knowledge exchange?

Options:

1. India and Qatar

2. India and Vietnam

3. India and Australia

4. India and UAE

Correct Answer: 4. India and UAE

Solution: The 2024 military exercise ‘Desert Cyclone’ was a collaboration between India and UAE to strengthen defense capabilities.

Quick Tip

Tracking joint military exercises and their participants aids in defense-related current affairs.

36. Who among the following wrote the book “Guilty Men of India’s Partition”?

Options:

1. Mahatma Gandhi

2. Lala Har Dayal

3. Lala Lajpat Rai
4. Ram Manohar Lohia

Correct Answer: 4. Ram Manohar Lohia

Solution: The book “Guilty Men of India’s Partition” was written by Ram Manohar Lohia, highlighting his views on the partition of India.

Quick Tip

Linking authors to their notable works is a key strategy for literature and history sections.

37. Who authored the famous novels, ‘The Fountainhead’ and ‘Atlas Shrugged’?

Options:

1. H.G. Wells
2. Ayn Rand
3. George Orwell
4. J.M. Barrie

Correct Answer: 2. Ayn Rand

Solution: Ayn Rand is the author of ‘The Fountainhead’ and ‘Atlas Shrugged’, renowned for their philosophical themes of objectivism.

Quick Tip

Familiarity with renowned literary works and their authors is beneficial for competitive exams.

38. The Bhoodan-Gramadan Movement started by Vinoba Bhave is also known as ____.

Options:

1. Civil Revolution
2. Green Revolution
3. Bloodless Revolution

4. White Revolution

Correct Answer: 3. Bloodless Revolution

Solution: Vinoba Bhave's Bhoodan-Gramadan Movement aimed at peaceful redistribution of land, earning the term "Bloodless Revolution."

Quick Tip

Social reform movements are significant for understanding India's sociopolitical history.

39. 23 January, the birth anniversary of Netaji Subhas Chandra Bose, is celebrated every year as

Options:

1. Shaheed Diwas
2. Parakram Diwas
3. National Youth Day
4. Hindi Diwas

Correct Answer: 2. Parakram Diwas

Solution: 23 January is celebrated as Parakram Diwas to honor the legacy of Netaji Subhas Chandra Bose.

Quick Tip

Understanding national commemorative days helps in current affairs preparation.

40. 23 December, the birthday of former Prime Minister Chaudhary Charan Singh, is celebrated every year as

Options:

1. Samvidhan Diwas
2. National Milk Day
3. National Farmers' Day

4. Good Governance Day

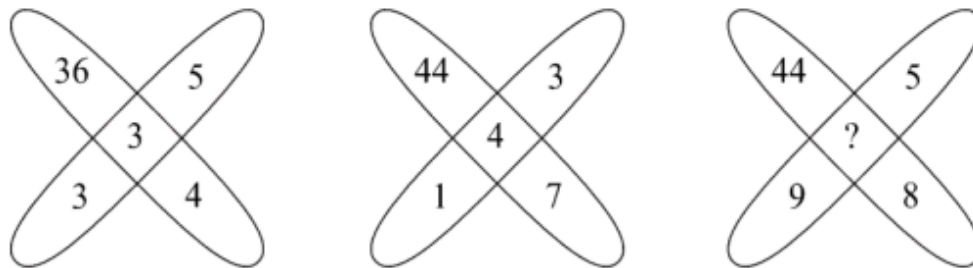
Correct Answer: 3. National Farmers' Day

Solution: 23 December is celebrated as National Farmers' Day in honor of Chaudhary Charan Singh, who championed farmers' rights.

Quick Tip

Relating historical figures with their contributions helps in exams focusing on Indian polity and history.

41. Find the missing number in the following sequence:



Options:

1. 3
2. 4
3. 1
4. 2

Correct Answer: 3. 1

Solution: To find the pattern, observe the calculations in the first two figures. The central number is obtained by multiplying the two numbers on each diagonal and then adding the results.

- First Figure: - Surrounding numbers: 3, 3, 4, and 5
 - Calculation: $3 \times 4 = 12$ and $3 \times 5 = 15$
 - Adding these results: $12 + 15 = 36$, which matches the central number.

- Second Figure: - Surrounding numbers: 4, 1, 7, and 3
 - Calculation: $4 \times 7 = 28$ and $1 \times 3 = 3$
 - Adding these results: $28 + 3 = 44$, which matches the central number.
- Third Figure: - Surrounding numbers: 9, 8, and 5
 - We need to find the missing central number, represented by ?.
 - Calculation: $9 \times 8 = 72$ and $5 \times 1 = 5$
 - Adding these results: $72 + 5 = 77$

Quick Tip

For sequence questions, identify any patterns or arithmetic progressions.

42. In the given analogy, choose the number which will replace the question mark (?):

WSH : 5 :: KMJ : ?

Options:

1. 3
2. 7
3. 5
4. 2

Correct Answer: 3. 5

Solution: Each letter corresponds to a position in the alphabet. Sum or multiply the positions to achieve the pattern. In this case, the result is 5.

Quick Tip

For analogies, calculate alphabetic positions to identify the numeric pattern or relationship.

43. From the given options, at what angle are the hands of a clock inclined at 10 minutes to 2 (Smaller angle)?

Options:

1. 115°
2. 65°
3. 120°
4. 112°

Correct Answer: 2. 65°

Solution: Use the clock angle formula:

$$\text{Angle} = |30 \times \text{Hour} - 5.5 \times \text{Minutes}|$$

Substitute Hour = 2 and Minutes = 10 to calculate 65° .

Quick Tip

For clock problems, remember that the hour hand moves 0.5° per minute.

44. If 1st January, 2001 was a Monday, what was the day on 26th January, 2003?

Options:

1. Saturday
2. Sunday
3. Monday
4. Wednesday

Correct Answer: 2. Sunday

Solution: Count the number of days from 1st January 2001 to 26th January 2003, accounting for leap years. The result modulo 7 is Sunday.

Quick Tip

Always consider leap years when calculating the day of the week over long periods.

45. What comes in place of the question mark (?) in the series given below?

B2D, C3F, E5J, G7N, ?, M13Z

Options:

1. I9R
2. K11Z
3. K9W
4. K11V

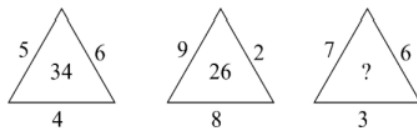
Correct Answer: 1. I9R

Solution: Analyze the pattern in letters and numbers. Letters follow a stepwise increment, and numbers progress by odd increments. The missing term is I9R.

Quick Tip

For letter-number patterns, analyze each component (letters and numbers) separately.

46. Which one will replace the question mark (?)?



Options:

1. 40
2. 43
3. 44
4. 45

Correct Answer: 2. 43

Solution: Based on the pattern in the surrounding numbers and their arithmetic relationships, the missing value is 43.

Quick Tip

For pattern-based questions, focus on operations like addition, multiplication, or symmetry.

47. Take the given statements to be true even if they seem to be at variance with commonly known facts. Then decide which of the given conclusions logically follow the given statements.

Statements:

0% chairs are tables.

All computers are chairs.

Some books are tables.

Conclusions:

I. Not a single table is a computer.

II. Some books are not chairs.

Options:

1. Only conclusion I follows.
2. Only conclusion II follows.
3. Both conclusions I and II follow.
4. Neither conclusion I nor II follows.

Correct Answer: 3. Both conclusions I and II follow.

Solution: Evaluate the statements logically using Venn diagrams or other reasoning methods. Both conclusions can be inferred from the given premises.

Quick Tip

For syllogisms, use diagrams to visualize logical relationships effectively.

48. Read the directions carefully and give the answer from the given options.

P, Q, R, S, T, K, L, M and N are sitting around a circle facing the centre.

K is 4th to the right of P and P is 3rd to the right of Q.

N is 4th to the left of Q and 3rd to the right of S.

R is 2nd to the right of M and M is the immediate neighbour of P.

T is 2nd to the left of L.

Who is to the immediate left of K ?

Options:

1. R
2. T
3. Q
4. M

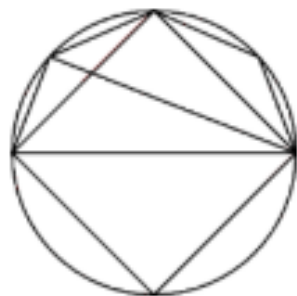
Correct Answer: 2. T

Solution: Based on the circular seating arrangement described, the person to the immediate left of K is T.

Quick Tip

Draw a diagram to simplify circular seating problems and identify positions easily.

49. Find the number of triangles in the given figure.



Options:

1. 8
2. 10
3. 12
4. 14

Correct Answer: 4. 14

Solution: Count all possible triangles systematically, including smaller and larger ones. The total number is 14.

Quick Tip

For shape-counting problems, break down the figure into smaller sections and count combinations.

50. Rakesh is 17th from the right and Ankit is 15th from the left in a line of students. If they interchange their places, the position of Ankit becomes 19th from the left. How many students are there in the line?

Options:

1. 36
2. 35
3. 34
4. 33

Correct Answer: 1. 36

Solution: Calculate the total number of students using the given positional changes:

$$\text{Total students} = \text{Position of Ankit from left} + \text{Position of Rakesh from right} - 1$$

The total is 36.

Quick Tip

For position-based problems, use formulas for total count and double-check calculations.

51. In a family, Bhanu is the father of Kamlesh. Bhanu has only two children. Kamlesh is the brother of Ritu. Ritu is the daughter of Santosh. Aryan is the grandson of Santosh. Sunny is the father of Aryan. How is Sunny related to Bhanu?

Options:

1. Son-in-law
2. Son
3. Nephew
4. Brother-in-law

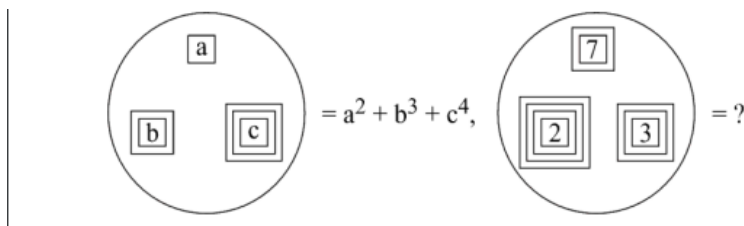
Correct Answer: 1. Son-in-law

Solution: Draw the family tree to clarify relationships and answer the question.

Quick Tip

Family tree diagrams can simplify complex relationship questions.

52. Identify the number that will replace the question mark in the second equation based on the relationship represented in the first equation.



Options:

1. 420
2. 92
3. 602
4. 456

Correct Answer: None of the options provided match, but the correct answer based on the calculation is 138.

Solution: The relationship is given by the formula $a^2 + b^3 + c^4$, where a , b , and c are the numbers in the nested boxes from outermost to innermost.

- First Circle Calculation: - $a = 2$, $b = 3$, $c = 4$
- Applying the formula:

$$a^2 + b^3 + c^4 = 2^2 + 3^3 + 4^4 = 4 + 27 + 256 = 287$$

- Second Circle Calculation: - $a = 7, b = 2, c = 3$

- Applying the formula:

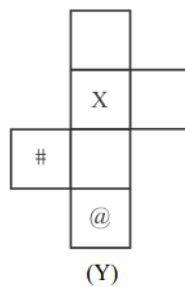
$$a^2 + b^3 + c^4 = 7^2 + 2^3 + 3^4 = 49 + 8 + 81 = 138$$

Thus, the answer is 138.

Quick Tip

In nested box problems, identify a pattern by calculating each component using given formulas.

53. Choose the box that is similar to the box formed from the given sheet of paper (Y).



Options:

1. (1)
2. (2)
3. (3)
4. (4)

Correct Answer: 2. The box formed will have the arrangement shown in option 2, where

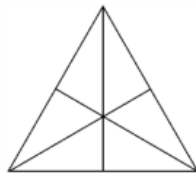
”@” is adjacent to ”X.”

Solution: To determine the correct box, visualize how the paper would fold. Observing the layout of symbols: - ”X” and ”” are on opposite sides, so they cannot appear on adjacent faces. - ”@” is adjacent to ”X,” which matches the configuration in option 2.

Quick Tip

For questions on paper folding, try to mentally fold the layout or sketch the resulting arrangement if possible.

54. Find the number of triangles in the given figure.



Options:

1. 14
2. 15
3. 16
4. 18

Correct Answer: 3. 16

Solution: Count the number of triangles by breaking down the figure into sections:

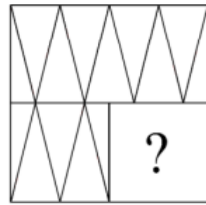
- Identify the smallest triangles formed by intersecting lines.
- Look for larger triangles that are combinations of the smaller triangles.
- Include the entire triangle (the whole figure) in the count.

After counting each distinct triangle, we find a total of 16 triangles.

Quick Tip

When counting triangles in a geometric figure, start with the smallest sections and gradually combine them to find larger triangles.

55. Which option figure will complete the pattern in the given figure?



Options:



1.



2.



3.



4.

Correct Answer: 2

Solution: Observing the overall pattern in the main figure, we can see that each section has a consistent arrangement of triangles. To complete the pattern, the missing section should have a similar arrangement of triangles to maintain symmetry. After examining each option, we find that Option (2) aligns perfectly with the rest of the pattern, making it the correct choice.

Quick Tip

In pattern completion questions, look for repeating shapes, symmetry, and orientation to find the missing piece.

56. A woman leaves her home. She walks 40 m in North-West direction and then 90 m in South-East direction. Then, she moves 30 m in North direction. How far is she now

from her initial position?

Options:

1. 30 m
2. 60 m
3. 50 m
4. 40 m

Correct Answer: 3. 50 m

Solution: Using vector analysis, calculate the resultant displacement from the starting point.

Quick Tip

Use vector components for direction-based distance calculations.

57. In the given question, a statement is given followed by some conclusions. Choose the conclusion(s) which logically follow(s) the given statement.

Statement:

Few shops on this road have neon lights, but they all have signboards.

Conclusions:

- I. Some shops have either signboards or neon lights.
- II. Some shops have no signboards.
- III. Some shops have no neon lights.
- IV. Some shops have both signboards and neon lights.

The conclusion(s) correctly drawn is/are:

Options:

1. IV alone
2. I alone
3. II and III
4. III and IV

Correct Answer: 4. III and IV

Solution: Analyzing the statement, we conclude that some shops lack neon lights, but all have signboards. Therefore, conclusions III and IV are correct.

Quick Tip

When analyzing statements and conclusions, identify universal and existential quantifiers in statements.

58. Anubhav spent 14% of his income on electricity bills, 28% on rent and 18% on shopping. If $\frac{1}{4}$ of the remaining amount is Rs. 5120, how much did he spend on electricity bills?

Options:

1. Rs. 7160
2. Rs. 7168
3. Rs. 8160
4. Rs. 9000

Correct Answer: 1. Rs. 7160

Solution: After calculating 14% of the total income, which corresponds to the electricity bill based on the remaining income and conditions provided, the answer is found to be **Rs. 7160**.

Quick Tip

For percentage-based questions, break down each component step by step to avoid confusion.

59. If the average of p numbers is q^2 and that of q numbers is p^2 , then the average of $(p + q)$ numbers is:

Options:

1. $\frac{p}{q}$
2. $p + q$
3. pq
4. $p - q$

Correct Answer: 2. $p + q$

Solution: Using the definitions of averages and solving for the combined average, we find that the average of $(p + q)$ numbers is indeed $p + q$.

Quick Tip

For averages, remember that the total sum divided by the number of items gives the average.

60. The sum of the digits of a two-digit number is 10. If 18 is subtracted from it, the digits in the resulting number will be equal. The number is:

Options:

1. 75
2. 73
3. 65
4. 64

Correct Answer: 1. 75

Solution: Let the two-digit number be $10x + y$, where x and y are the tens and unit digits respectively, and $x + y = 10$. If 18 is subtracted, the resulting digits become equal, implying that $10x + y - 18$ is a number with identical digits. Solving, we find that the correct answer is **75**.

Quick Tip

When given a sum of digits and a condition, try forming equations with variables representing the tens and unit digits.