

Class 9 · Reasoning Olympiad

Total questions 50	Total marks 60	Time 60 minutes	Negative marking None
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Each question has four options, of which only one is correct. Mark your answer on the answer sheet. The Achievers Section carries higher marks per question. The answer key with full solutions is at the end of this paper.

This is original practice material written to the Level 1 pattern. It is not a past paper and is not affiliated with SOF or any official olympiad body.

Logical Reasoning

45 questions · 1 mark each · 45 marks

Q1. Which letter comes next? D, F, I, M, ____

- (A) Q (B) R (C) P (D) S

Q2. Find the odd one out: 24, 28, 32, 38, 44

- (A) 28 (B) 38 (C) 32 (D) 44

Q3. Read the statements and choose the conclusion that **MUST** be true.

All metals conduct electricity. Copper is a metal.

- (A) Copper does not conduct electricity. (B) Copper conducts electricity.
(C) Only copper is a metal. (D) All conductors are copper.

Q4. If JAR is written as 10 - 1 - 18 using the positions of the letters in the alphabet, how is INK written?

- (A) 11 - 14 - 9 (B) 10 - 15 - 12 (C) 18 - 13 - 16 (D) 9 - 14 - 11

Q5. Riya walks 9 m towards north, turns right and walks 3 m, then turns right again and walks 9 m. How far is Riya from the starting point, and in which direction?

- (A) 3 m, East (B) 3 m, West (C) 9 m, East (D) 12 m, North

Q6. In a certain code JAR is written as NEV. How is SUN written in that code?

- (A) OQJ (B) RYW (C) WYR (D) XZS

Q7. Find the next number in the pattern: 26, 34, 42, 50, ____

- (A) 59 (B) 58 (C) 50 (D) 66

Q8. Which word would come **FIRST** in a dictionary?

- (A) melon (B) monkey (C) minute (D) maple

Q9. 8 : 64 :: 4 : ____

- (A) 9 (B) 16 (C) 8 (D) 25

Q10. If the 12th of a month is a Monday, what day of the week is the 29th of the same month?

- (A) Friday (B) Thursday (C) Wednesday (D) Saturday

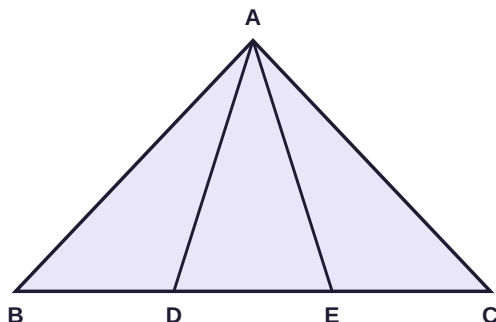
Q11. A father is 8 years older than his son. The son is 18 years old now. How old will the father be after 7 years?

- (A) 40 years (B) 26 years (C) 34 years (D) 33 years

Q12. Which one does NOT belong with the others?

- (A) March (B) January (C) April (D) July

Q13. How many triangles are there in the given figure?



- (A) 5 (B) 6 (C) 8 (D) 7

Q14. In a class, 17 students play cricket, 19 play football and 9 play both games. Every student plays at least one of the two. How many students are there in the class?

- (A) 28 (B) 18 (C) 36 (D) 27

Q15. Cow : Calf :: Dog : ____

- (A) Cub (B) Puppy (C) Kitten (D) Foal

Q16. Five friends A, B, C, D and E sit in a row of five seats. A sits at the extreme left end, D sits at the extreme right end, C sits exactly in the middle and B sits between A and C. Who sits in the fourth seat from the left?

- (A) C (B) B (C) D (D) E

Q17. Which letter comes next? B, F, J, N, ____

- (A) V (B) S (C) R (D) Q

Q18. In a queue, Deep is 4th from the front and 12th from the back. How many people are in the queue altogether?

- (A) 16 (B) 17 (C) 15 (D) 14

Q19. In the first row the numbers are 4, 8 and 24. In the second row they are 4, 5 and 18. In the third row they are 4, 7 and ____ . The same rule applies to every row.

- (A) 24 (B) 21 (C) 22 (D) 23

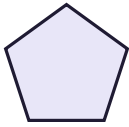
Q20. Three of the following four are alike and form a group. Which one does NOT belong?

- (A) Thar (B) Yamuna (C) Godavari (D) Ganga

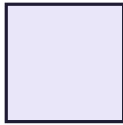
Q21. Pointing to a boy in a photograph, Meera said, "He is the son of my paternal grandfather's only son." How is the boy related to Meera?

- (A) Uncle (B) Brother (C) Cousin (D) Nephew

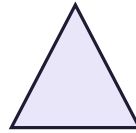
Q22. Which of these figures has exactly 3 lines of symmetry?



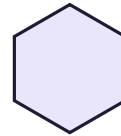
(A)



(B)



(C)



(D)

Q23. Count backward in 10s: 130, 120, 110, 100, ____

(A) 100

(B) 91

(C) 90

(D) 80

Q24. Find the next number in the pattern: 4, 11, 25, 53, ____

(A) 106

(B) 107

(C) 109

(D) 112

Q25. In a row of 37 children, Imran is 30th from the left end. What is Imran's position from the right end?

(A) 8th

(B) 7th

(C) 10th

(D) 9th

Q26. Arun walks 8 m north, then 3 m east, then 6 m south. Where is Arun now, relative to the starting point?

(A) 3 m north and 3 m east

(B) 8 m north and 3 m east

(C) 2 m north and 3 m east

(D) 2 m north and 4 m east

Q27. Which letter comes next? G, I, L, P, ____

(A) U

(B) T

(C) V

(D) S

Q28. Find the odd one out: 24, 60, 72, 84, 136

(A) 60

(B) 72

(C) 136

(D) 84

Q29. Read the statements and choose the conclusion that **MUST** be true.

All squares are rectangles. All rectangles have four sides.

(A) All rectangles are squares.

(B) No rectangle is a square.

(C) All squares have four sides.

(D) Some squares have three sides.

Q30. If DOG is written as 4 - 15 - 7 using the positions of the letters in the alphabet, how is BUS written?

(A) 3 - 22 - 20

(B) 2 - 21 - 19

(C) 19 - 21 - 2

(D) 25 - 6 - 8

Q31. Meera walks 5 m towards north, turns right and walks 6 m, then turns right again and walks 5 m. How far is Meera from the starting point, and in which direction?

(A) 5 m, East

(B) 11 m, North

(C) 6 m, East

(D) 6 m, West

Q32. In a certain code FAN is written as JER. How is CAT written in that code?

(A) YWP

(B) XEG

(C) HFY

(D) GEX

Q33. Find the next number in the pattern: 8, 13, 18, 23, ____

(A) 28

(B) 23

(C) 29

(D) 33

Q34. $6 : 36 :: 10 : \underline{\hspace{1cm}}$

(A) 121

(B) 81

(C) 20

(D) 100

Q35. If the 12th of a month is a Thursday, what day of the week is the 21th of the same month?

- (A) Friday (B) Saturday (C) Monday (D) Sunday

Q36. A father is 18 years older than his son. The son is 13 years old now. How old will the father be after 8 years?

- (A) 47 years (B) 40 years (C) 39 years (D) 31 years

Q37. In a class, 18 students play cricket, 20 play football and 5 play both games. Every student plays at least one of the two. How many students are there in the class?

- (A) 34 (B) 38 (C) 33 (D) 28

Q38. Doctor : Hospital :: Teacher : ____

- (A) Factory (B) Farm (C) Court (D) School

Q39. Which letter comes next? L, N, P, R, ____

- (A) V (B) U (C) S (D) T

Q40. In a queue, Farah is 5th from the front and 5th from the back. How many people are in the queue altogether?

- (A) 8 (B) 11 (C) 9 (D) 10

Q41. In the first row the numbers are 9, 4 and 38. In the second row they are 9, 6 and 56. In the third row they are 3, 7 and ____ . The same rule applies to every row.

- (A) 25 (B) 22 (C) 24 (D) 23

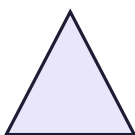
Q42. Pointing to a boy in a photograph, Vikram said, "He is the son of my paternal grandfather's only son." How is the boy related to Vikram?

- (A) Nephew (B) Cousin (C) Brother (D) Uncle

Q43. Which of these figures has exactly 5 lines of symmetry?



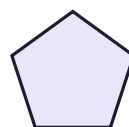
(A)



(B)



(C)



(D)

Q44. Count backward in 10s: 70, 60, 50, 40, ____

- (A) 31 (B) 40 (C) 20 (D) 30

Q45. Find the next number in the pattern: 5, 11, 23, 47, ____

- (A) 94 (B) 95 (C) 96 (D) 93

Achievers Section

5 questions · 3 marks each · 15 marks

Q46. The average of 4 numbers is 40. 3 of them are 11, 37, 73. What is the remaining number?

- (A) 39 (B) 37 (C) 41 (D) 40

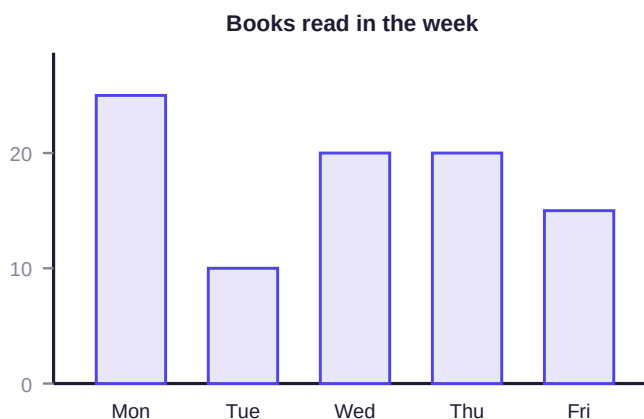
Q47. You must be 18 to vote in India. A student turns 18 in March. Can they vote in an election held in June of that year?

- (A) Only with a parent present (B) No, only after turning 19
(C) No, voting starts at 21 (D) Yes, because they are already 18 by then

Q48. Find the next number: 3, 5, 9, 15, 23, ____

- (A) 31 (B) 34 (C) 35 (D) 33

Q49. The bar graph shows the number of books read by a class on each day of one week. How many books were read in the whole week?



- (A) 100 (B) 90 (C) 85 (D) 95

Q50. How many numbers between 40 and 70 leave a remainder of 5 when divided by 8?

- (A) 5 (B) 4 (C) 3 (D) 6

Answer Key

1	2	3	4	5	6	7	8	9	10
B	B	B	D	A	C	B	D	B	B
11	12	13	14	15	16	17	18	19	20
D	C	B	D	B	D	C	C	C	A
21	22	23	24	25	26	27	28	29	30
B	C	C	C	A	C	A	C	C	B
31	32	33	34	35	36	37	38	39	40
C	D	A	D	B	C	C	D	D	C
41	42	43	44	45	46	47	48	49	50
D	C	D	D	B	A	D	D	B	B

Solutions

Q1. (B) The gaps grow by one each time (+2, +3, +4, +5), so after M the next letter is R.

Q2. (B) Every other number is a multiple of 4. 38 is not.

Q3. (B) From "All metals conduct electricity. Copper is a metal." it follows necessarily that copper conducts electricity.

- Q4. (D) I is letter 9 and N is letter 14 and K is letter 11, so $INK = 9 - 14 - 11$.
- Q5. (A) The two 9 m walks (north, then south) cancel out, leaving only the 3 m walked towards the east. So the answer is 3 m, East.
- Q6. (C) Each letter moves 4 place(s) forward in the alphabet, so SUN becomes WYR.
- Q7. (B) Each number is 8 more than the one before it, so the next is $50 + 8 = 58$.
- Q8. (D) In alphabetical order the words run maple, melon, minute, monkey, so maple comes first.
- Q9. (B) The second number is the first multiplied by itself: $8 \times 8 = 64$, so $4 \times 4 = 16$.
- Q10. (B) 17 days later is 2 week(s) and 3 day(s), so the day moves 3 place(s) on from Monday to Thursday.
- Q11. (D) The father is $18 + 8 = 26$ now, so after 7 years he will be $26 + 7 = 33$ years.
- Q12. (C) April has 30 days while the others have 31.
- Q13. (B) Every triangle has apex A and two of the 4 base points as its other corners. Choosing 2 from 4 gives 6 triangles.
- Q14. (D) $17 + 19 - 9 = 27$. The 9 who play both were counted twice, so they are subtracted once.
- Q15. (B) The second word relates to the first in the same way Puppy relates to Dog.
- Q16. (D) Seat 1 = A, seat 3 = C, seat 5 = D. B must be between A and C, so B takes seat 2, and the only friend left for seat 4 is E.
- Q17. (C) Each letter moves 4 place(s) forward in the alphabet, so after N comes R.
- Q18. (C) Counting Deep only once: $4 + 12 - 1 = 15$ people.
- Q19. (C) The rule is: add the two numbers and double the result. Check: 4, 8 gives 24 and 4, 5 gives 18; so 4, 7 gives 22.
- Q20. (A) Yamuna, Godavari, Ganga are all rivers; Thar is not.
- Q21. (B) Meera's paternal grandfather's only son is Meera's own father, so that man's son is Meera's own sibling. The answer is Brother.
- Q22. (C) Counting lines of symmetry: regular pentagon has 5, square has 4, equilateral triangle has 3, regular hexagon has 6. The answer is figure (C).
- Q23. (C) Subtracting 10 from 100 gives 90.
- Q24. (C) Each number is doubled and 3 is added: $53 \times 2 + 3 = 109$.
- Q25. (A) Position from the right = total - position from the left + 1 = $37 - 30 + 1 = 8$ th.
- Q26. (C) The 6 m south cancels part of the 8 m north, leaving $8 - 6 = 2$ m north, and the 3 m east is unchanged. So Arun is 2 m north and 3 m east.
- Q27. (A) The gaps grow by one each time (+2, +3, +4, +5), so after P the next letter is U.
- Q28. (C) Every other number is a multiple of 12. 136 is not.
- Q29. (C) From "All squares are rectangles. All rectangles have four sides." it follows necessarily that all squares have four sides.
- Q30. (B) B is letter 2 and U is letter 21 and S is letter 19, so $BUS = 2 - 21 - 19$.
- Q31. (C) The two 5 m walks (north, then south) cancel out, leaving only the 6 m walked towards the east. So the answer is 6 m, East.
- Q32. (D) Each letter moves 4 place(s) forward in the alphabet, so CAT becomes GEX.
- Q33. (A) Each number is 5 more than the one before it, so the next is $23 + 5 = 28$.
- Q34. (D) The second number is the first multiplied by itself: $6 \times 6 = 36$, so $10 \times 10 = 100$.
- Q35. (B) 9 days later is 1 week(s) and 2 day(s), so the day moves 2 place(s) on from Thursday to Saturday.
- Q36. (C) The father is $13 + 18 = 31$ now, so after 8 years he will be $31 + 8 = 39$ years.
- Q37. (C) $18 + 20 - 5 = 33$. The 5 who play both were counted twice, so they are subtracted once.
- Q38. (D) The second word relates to the first in the same way School relates to Teacher.
- Q39. (D) Each letter moves 2 place(s) forward in the alphabet, so after R comes T.

- Q40. (C) Counting Farah only once: $5 + 5 - 1 = 9$ people.
- Q41. (D) The rule is: multiply the two numbers, then add 2. Check: 9, 4 gives 38 and 9, 6 gives 56; so 3, 7 gives 23.
- Q42. (C) Vikram's paternal grandfather's only son is Vikram's own father, so that man's son is Vikram's own sibling. The answer is Brother.
- Q43. (D) Counting lines of symmetry: rectangle has 2, equilateral triangle has 3, square has 4, regular pentagon has 5. The answer is figure (D).
- Q44. (D) Subtracting 10 from 40 gives 30.
- Q45. (B) Each number is doubled and 1 is added: $47 \times 2 + 1 = 95$.
- Q46. (A) The 4 numbers add up to $40 \times 4 = 160$. The given numbers add up to 121, so the missing number is $160 - 121 = 39$.
- Q47. (D) The voting age is 18, and the student has already turned 18 before the election. The answer is Yes, because they are already 18 by then.
- Q48. (D) The gaps grow 2, 4, 6, 8, so the next gap is 10 and $23 + 10 = 33$.
- Q49. (B) $25 + 10 + 20 + 20 + 15 = 90$ books.
- Q50. (B) The numbers are 45, 53, 61, 69 — 4 of them.

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