

Class 6 · 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. In a queue, Suresh is 6th from the front and 8th from the back. How many people are in the queue altogether?

- (A) 15 (B) 13 (C) 12 (D) 14

Q2. Find the odd one out: 36, 45, 63, 84, 99

- (A) 63 (B) 36 (C) 99 (D) 84

Q3. $3 : 9 :: 4 : \underline{\hspace{1cm}}$

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

Q4. A father is 25 years older than his son. The son is 10 years old now. How old will the father be after 8 years?

- (A) 43 years (B) 51 years (C) 35 years (D) 44 years

Q5. Cow : Calf :: Dog : _____

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

Q6. Which word would come FIRST in a dictionary?

- (A) matter (B) mother (C) museum (D) minute

Q7. Read the statements and choose the conclusion that MUST be true.

Every student in the class has a pencil. Rahul is a student in the class.

- (A) Some students have no pencil. (B) Only Rahul has a pencil.
(C) Rahul has no pencil. (D) Rahul has a pencil.

Q8. In a row of 31 children, Tara is 15th from the left end. What is Tara's position from the right end?

- (A) 18th (B) 16th (C) 17th (D) 19th

Q9. If TIN is written as 20 - 9 - 14 using the positions of the letters in the alphabet, how is CUP written?

- (A) 24 - 6 - 11 (B) 3 - 21 - 16 (C) 4 - 22 - 17 (D) 16 - 21 - 3

Q10. Which one does NOT belong with the others?

- (A) Eagle (B) Crow (C) Bat (D) Parrot

Q11. If the 10th of a month is a Thursday, what day of the week is the 26th of the same month?

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

Q12. 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) E (B) C (C) B (D) D

Q13. Meera walks 8 m towards north, turns right and walks 5 m, then turns right again and walks 8 m. How far is Meera from the starting point, and in which direction?

- (A) 5 m, East (B) 8 m, East (C) 5 m, West (D) 13 m, North

Q14. In a certain code FAN is written as HCP. How is PEN written in that code?

- (A) SHQ (B) NCL (C) PGR (D) RGP

Q15. Which letter comes next? E, G, J, N, ____

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

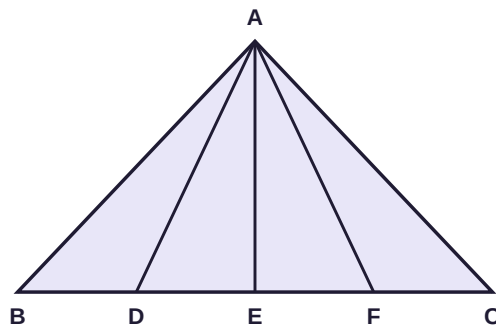
Q16. Nila walks 5 m north, then 8 m east, then 3 m south. Where is Nila now, relative to the starting point?

- (A) 2 m north and 9 m east (B) 5 m north and 8 m east
(C) 2 m north and 8 m east (D) 3 m north and 8 m east

Q17. In the first row the numbers are 8, 4 and 68. In the second row they are 5, 9 and 34. In the third row they are 4, 8 and ____ . The same rule applies to every row.

- (A) 26 (B) 25 (C) 23 (D) 24

Q18. How many triangles are there in the given figure?



- (A) 10 (B) 11 (C) 9 (D) 12

Q19. Find the next number in the pattern: 5, 11, 23, 47, ____

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

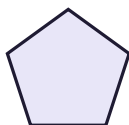
Q20. Find the next number in the pattern: 10, 14, 18, 22, ____

- (A) 26 (B) 30 (C) 27 (D) 22

Q21. Which of these figures has exactly 6 lines of symmetry?



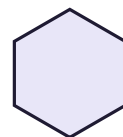
(A)



(B)



(C)



(D)

- Q22. Three of the following four are alike and form a group. Which one does NOT belong?
 (A) Train (B) Bus (C) Table (D) Truck
- Q23. Which letter comes next? C, F, I, L, ____
 (A) N (B) O (C) R (D) P
- Q24. Count backward in 10s: 130, 120, 110, 100, ____
 (A) 91 (B) 100 (C) 80 (D) 90
- Q25. In a class, 20 students play cricket, 19 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) 29 (B) 34 (C) 35 (D) 39
- Q26. Pointing to a boy in a photograph, Rahul said, "He is the son of my paternal grandfather's only son." How is the boy related to Rahul?
 (A) Brother (B) Cousin (C) Uncle (D) Nephew
- Q27. In a queue, Suresh is 9th from the front and 8th from the back. How many people are in the queue altogether?
 (A) 17 (B) 16 (C) 15 (D) 18
- Q28. Find the odd one out: 9, 15, 23, 27, 33
 (A) 23 (B) 33 (C) 27 (D) 9
- Q29. $4 : 16 :: 9 : \underline{\hspace{1cm}}$
 (A) 100 (B) 81 (C) 18 (D) 64
- Q30. A father is 16 years older than his son. The son is 11 years old now. How old will the father be after 4 years?
 (A) 27 years (B) 32 years (C) 31 years (D) 35 years
- Q31. Read the statements and choose the conclusion that MUST be true.
 All roses are flowers. All flowers need water.
 (A) All flowers are roses. (B) Some roses do not need water.
 (C) All roses need water. (D) Only roses need water.
- Q32. In a row of 24 children, Sana is 20th from the left end. What is Sana's position from the right end?
 (A) 4th (B) 6th (C) 7th (D) 5th
- Q33. If RAT is written as 18 - 1 - 20 using the positions of the letters in the alphabet, how is BAG written?
 (A) 25 - 26 - 20 (B) 7 - 1 - 2 (C) 2 - 1 - 7 (D) 3 - 2 - 8
- Q34. If the 18th of a month is a Sunday, what day of the week is the 31st of the same month?
 (A) Saturday (B) Friday (C) Monday (D) Sunday
- Q35. Kabir walks 9 m towards north, turns right and walks 5 m, then turns right again and walks 9 m. How far is Kabir from the starting point, and in which direction?
 (A) 9 m, East (B) 5 m, East (C) 5 m, West (D) 14 m, North
- Q36. In a certain code HAT is written as LEX. How is BAT written in that code?
 (A) FEX (B) GFY (C) XWP (D) XEF

Q37. Which letter comes next? C, E, H, L, ____

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

Q38. Sima walks 6 m north, then 3 m east, then 3 m south. Where is Sima now, relative to the starting point?

- (A) 3 m north and 4 m east (B) 3 m north and 3 m east
(C) 4 m north and 3 m east (D) 6 m north and 3 m east

Q39. In the first row the numbers are 6, 8 and 47. In the second row they are 7, 7 and 48. In the third row they are 5, 7 and ____ . The same rule applies to every row.

- (A) 33 (B) 35 (C) 36 (D) 34

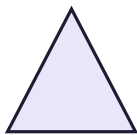
Q40. Find the next number in the pattern: 3, 7, 15, 31, ____

- (A) 63 (B) 61 (C) 62 (D) 64

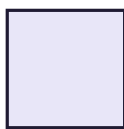
Q41. Find the next number in the pattern: 20, 29, 38, 47, ____

- (A) 57 (B) 47 (C) 65 (D) 56

Q42. Which of these figures has exactly 5 lines of symmetry?



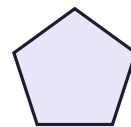
(A)



(B)



(C)



(D)

Q43. Which letter comes next? D, H, L, P, ____

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

Q44. Count backward in 5s: 35, 30, 25, 20, ____

- (A) 15 (B) 10 (C) 16 (D) 20

Q45. In a class, 11 students play cricket, 20 play football and 7 play both games. Every student plays at least one of the two. How many students are there in the class?

- (A) 31 (B) 25 (C) 17 (D) 24

Achievers Section

5 questions · 3 marks each · 15 marks

Q46. The clock in the figure shows 11:30. What is the angle between the hour hand and the minute hand?



- (A) 180° (B) 150° (C) 165° (D) 195°

Q47. A river rises in the Himalayas, flows east across northern India and forms the world's largest delta before reaching the Bay of Bengal. Which river is it?

- (A) The Ganga (B) The Narmada (C) The Godavari (D) The Krishna

Q48. How many numbers between 60 and 80 leave a remainder of 5 when divided by 8?

- (A) 3 (B) 2 (C) 5 (D) 4

Q49. Using each of the digits 9, 1, 0, 4 exactly once, what is the smallest 4-digit number that can be formed?

- (A) 1058 (B) 0149 (C) 9410 (D) 1049

Q50. If FISH is coded as JMWL, how is GATE coded?

- (A) OIBM (B) CWPA (C) KEXI (D) IXEK

Answer Key

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

Solutions

Q1. (B) Counting Suresh only once: $6 + 8 - 1 = 13$ people.

Q2. (D) Every other number is a multiple of 9. 84 is not.

Q3. (B) The second number is the first multiplied by itself: $3 \times 3 = 9$, so $4 \times 4 = 16$.

- Q4. (A) The father is $10 + 25 = 35$ now, so after 8 years he will be $35 + 8 = 43$ years.
- Q5. (A) The second word relates to the first in the same way Puppy relates to Dog.
- Q6. (A) In alphabetical order the words run matter, minute, mother, museum, so matter comes first.
- Q7. (D) From "Every student in the class has a pencil. Rahul is a student in the class." it follows necessarily that rahul has a pencil.
- Q8. (C) Position from the right = total - position from the left + 1 = $31 - 15 + 1 = 17$ th.
- Q9. (B) C is letter 3 and U is letter 21 and P is letter 16, so CUP = $3 - 21 - 16$.
- Q10. (C) Bat is a mammal, not a bird.
- Q11. (C) 16 days later is 2 week(s) and 2 day(s), so the day moves 2 place(s) on from Thursday to Saturday.
- Q12. (A) 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.
- Q13. (A) The two 8 m walks (north, then south) cancel out, leaving only the 5 m walked towards the east. So the answer is 5 m, East.
- Q14. (D) Each letter moves 2 place(s) forward in the alphabet, so PEN becomes RGP.
- Q15. (D) The gaps grow by one each time (+2, +3, +4, +5), so after N the next letter is S.
- Q16. (C) The 3 m south cancels part of the 5 m north, leaving $5 - 3 = 2$ m north, and the 8 m east is unchanged. So Nila is 2 m north and 8 m east.
- Q17. (D) The rule is: square the first number and add the second. Check: 8, 4 gives 68 and 5, 9 gives 34; so 4, 8 gives 24.
- Q18. (A) Every triangle has apex A and two of the 5 base points as its other corners. Choosing 2 from 5 gives 10 triangles.
- Q19. (B) Each number is doubled and 1 is added: $47 \times 2 + 1 = 95$.
- Q20. (A) Each number is 4 more than the one before it, so the next is $22 + 4 = 26$.
- Q21. (D) Counting lines of symmetry: rectangle has 2, regular pentagon has 5, square has 4, regular hexagon has 6. The answer is figure (D).
- Q22. (C) Train, Truck, Bus are all vehicles; Table is not.
- Q23. (B) Each letter moves 3 place(s) forward in the alphabet, so after L comes O.
- Q24. (D) Subtracting 10 from 100 gives 90.
- Q25. (B) $20 + 19 - 5 = 34$. The 5 who play both were counted twice, so they are subtracted once.
- Q26. (A) Rahul's paternal grandfather's only son is Rahul's own father, so that man's son is Rahul's own sibling. The answer is Brother.
- Q27. (B) Counting Suresh only once: $9 + 8 - 1 = 16$ people.
- Q28. (A) Every other number is a multiple of 3. 23 is not.
- Q29. (B) The second number is the first multiplied by itself: $4 \times 4 = 16$, so $9 \times 9 = 81$.
- Q30. (C) The father is $11 + 16 = 27$ now, so after 4 years he will be $27 + 4 = 31$ years.
- Q31. (C) From "All roses are flowers. All flowers need water." it follows necessarily that all roses need water.
- Q32. (D) Position from the right = total - position from the left + 1 = $24 - 20 + 1 = 5$ th.
- Q33. (C) B is letter 2 and A is letter 1 and G is letter 7, so BAG = $2 - 1 - 7$.
- Q34. (A) 13 days later is 1 week(s) and 6 day(s), so the day moves 6 place(s) on from Sunday to Saturday.
- Q35. (B) The two 9 m walks (north, then south) cancel out, leaving only the 5 m walked towards the east. So the answer is 5 m, East.
- Q36. (A) Each letter moves 4 place(s) forward in the alphabet, so BAT becomes FEX.
- Q37. (D) The gaps grow by one each time (+2, +3, +4, +5), so after L the next letter is Q.
- Q38. (B) The 3 m south cancels part of the 6 m north, leaving $6 - 3 = 3$ m north, and the 3 m east is unchanged. So Sima is 3 m north and 3 m east.

- Q39. (D) The rule is: multiply the two numbers, then subtract 1. Check: 6, 8 gives 47 and 7, 7 gives 48; so 5, 7 gives 34.
- Q40. (A) Each number is doubled and 1 is added: $31 \times 2 + 1 = 63$.
- Q41. (D) Each number is 9 more than the one before it, so the next is $47 + 9 = 56$.
- Q42. (D) Counting lines of symmetry: equilateral triangle has 3, square has 4, rectangle has 2, regular pentagon has 5. The answer is figure (D).
- Q43. (A) Each letter moves 4 place(s) forward in the alphabet, so after P comes T.
- Q44. (A) Subtracting 5 from 20 gives 15.
- Q45. (D) $11 + 20 - 7 = 24$. The 7 who play both were counted twice, so they are subtracted once.
- Q46. (C) The minute hand is at 180° from 12 and the hour hand at 345° from 12, so the angle between them is 165° .
- Q47. (A) The Ganga flows east and forms the Sundarbans delta at the Bay of Bengal.
- Q48. (A) The numbers are 61, 69, 77 — 3 of them.
- Q49. (D) A 4-digit number cannot begin with 0, so the smallest possible first digit is 1. The remaining digits are then placed in increasing order: 1049.
- Q50. (C) Every letter moves 4 place(s) forward, so GATE becomes KEXI.

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