

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

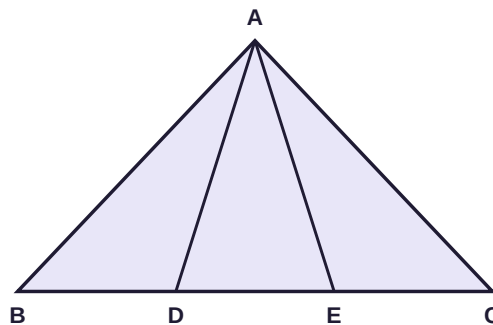
Q1. In a queue, Suresh is 7th from the front and 11th from the back. How many people are in the queue altogether?

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

Q2. Count backward in 10s: 110, 100, 90, 80, ____

- (A) 71 (B) 80 (C) 70 (D) 60

Q3. How many triangles are there in the given figure?



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

Q4. In a class, 11 students play cricket, 14 play football and 3 play both games. Every student plays at least one of the two. How many students are there in the class?

- (A) 25 (B) 19 (C) 22 (D) 23

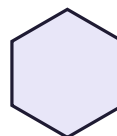
Q5. Which of these figures has exactly 2 lines of symmetry?



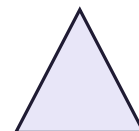
(A)



(B)



(C)



(D)

Q6. In a certain code HAT is written as JCV. How is SUN written in that code?

- (A) QSL (B) UWP (C) VXQ (D) PWU

Q7. Which letter comes next? B, E, H, K, ____

- (A) M (B) N (C) O (D) Q

Q8. A father is 9 years older than his son. The son is 8 years old now. How old will the father be after 2 years?

- (A) 17 years (B) 20 years (C) 19 years (D) 21 years

Q9. $9 : 81 :: 7 : \underline{\hspace{1cm}}$

- (A) 36 (B) 64 (C) 14 (D) 49

Q10. Which letter comes next? B, D, G, K, $\underline{\hspace{1cm}}$

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

Q11. Nila walks 9 m north, then 5 m east, then 3 m south. Where is Nila now, relative to the starting point?

- (A) 6 m north and 6 m east (B) 7 m north and 5 m east
(C) 6 m north and 5 m east (D) 9 m north and 5 m east

Q12. If the 8th of a month is a Tuesday, what day of the week is the 24th of the same month?

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

Q13. Which one does NOT belong with the others?

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

Q14. 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) Cousin (B) Brother (C) Nephew (D) Uncle

Q15. Which word would come FIRST in a dictionary?

- (A) maple (B) mango (C) matter (D) mother

Q16. In a row of 24 children, Sana is 15th from the left end. What is Sana's position from the right end?

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

Q17. Three of the following four are alike and form a group. Which one does NOT belong?

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

Q18. Find the next number in the pattern: 11, 20, 29, 38, $\underline{\hspace{1cm}}$

- (A) 47 (B) 48 (C) 56 (D) 38

Q19. Find the odd one out: 12, 20, 24, 34, 36

- (A) 34 (B) 12 (C) 20 (D) 36

Q20. Anita walks 6 m towards north, turns right and walks 3 m, then turns right again and walks 6 m. How far is Anita from the starting point, and in which direction?

- (A) 3 m, West (B) 9 m, North (C) 6 m, East (D) 3 m, East

Q21. If FAN is written as 6 - 1 - 14 using the positions of the letters in the alphabet, how is INK written?

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

Q22. In the first row the numbers are 4, 2 and 6. In the second row they are 9, 6 and 52. In the third row they are 6, 8 and $\underline{\hspace{1cm}}$. The same rule applies to every row.

- (A) 46 (B) 48 (C) 45 (D) 47

Q23. 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) B (C) D (D) C

Q24. Read the statements and choose the conclusion that **MUST** be true.

All squares are rectangles. All rectangles have four sides.

- (A) Some squares have three sides. (B) All squares have four sides.
(C) All rectangles are squares. (D) No rectangle is a square.

Q25. Find the next number in the pattern: 3, 7, 15, 31, ____

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

Q26. Book : Library :: Medicine : ____

- (A) Bakery (B) Studio (C) Pharmacy (D) Garage

Q27. In a queue, Nita is 8th from the front and 9th from the back. How many people are in the queue altogether?

- (A) 17 (B) 16 (C) 18 (D) 15

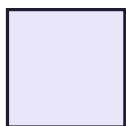
Q28. Count backward in 3s: 21, 18, 15, 12, ____

- (A) 9 (B) 6 (C) 12 (D) 10

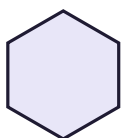
Q29. In a class, 8 students play cricket, 8 play football and 3 play both games. Every student plays at least one of the two. How many students are there in the class?

- (A) 13 (B) 10 (C) 16 (D) 14

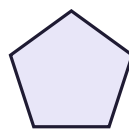
Q30. Which of these figures has exactly 3 lines of symmetry?



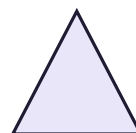
(A)



(B)



(C)



(D)

Q31. In a certain code FAN is written as HCP. How is PEN written in that code?

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

Q32. Which letter comes next? K, N, Q, T, ____

- (A) V (B) X (C) Z (D) W

Q33. A father is 4 years older than his son. The son is 10 years old now. How old will the father be after 7 years?

- (A) 22 years (B) 21 years (C) 14 years (D) 28 years

Q34. $8 : 64 :: 3 : \underline{\hspace{1cm}}$

- (A) 6 (B) 9 (C) 4 (D) 16

Q35. Which letter comes next? A, C, F, J, ____

- (A) O (B) M (C) P (D) N

Q36. Ravi walks 6 m north, then 9 m east, then 3 m south. Where is Ravi now, relative to the starting point?

- (A) 4 m north and 9 m east (B) 6 m north and 9 m east
(C) 3 m north and 9 m east (D) 3 m north and 10 m east

Q37. If the 12th of a month is a Thursday, what day of the week is the 29th of the same month?

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

Q38. In a row of 33 children, Ravi is 26th from the left end. What is Ravi's position from the right end?

- (A) 8th (B) 9th (C) 7th (D) 10th

Q39. Find the next number in the pattern: 8, 15, 22, 29, ____

- (A) 36 (B) 43 (C) 29 (D) 37

Q40. Find the odd one out: 6, 12, 18, 27, 31

- (A) 31 (B) 18 (C) 27 (D) 6

Q41. Riya walks 6 m towards north, turns right and walks 2 m, then turns right again and walks 6 m. How far is Riya from the starting point, and in which direction?

- (A) 8 m, North (B) 2 m, East (C) 6 m, East (D) 2 m, West

Q42. If DOG is written as 4 - 15 - 7 using the positions of the letters in the alphabet, how is PEN written?

- (A) 17 - 6 - 15 (B) 16 - 5 - 14 (C) 11 - 22 - 13 (D) 14 - 5 - 16

Q43. In the first row the numbers are 7, 7 and 50. In the second row they are 4, 4 and 17. In the third row they are 5, 6 and ____ . The same rule applies to every row.

- (A) 33 (B) 30 (C) 32 (D) 31

Q44. Find the next number in the pattern: 4, 11, 25, 53, ____

- (A) 107 (B) 109 (C) 106 (D) 112

Q45. Cow : Calf :: Dog : ____

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

Achievers Section

5 questions · 3 marks each · 15 marks

Q46. The average of 4 numbers is 29. 3 of them are 108, 5, 1. What is the remaining number?

- (A) 0 (B) 2 (C) 4 (D) 29

Q47. The clock in the figure shows 7:30. What is the angle between the hour hand and the minute hand?



- (A) 30° (B) 45° (C) 75° (D) 60°

Q48. A program repeats "print star" 5 times inside a loop. How many stars appear?

- (A) 10 (B) 5 (C) 1 (D) 0

Q49. How many numbers between 60 and 85 leave a remainder of 4 when divided by 6?

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

Q50. If DESK is coded as IJXP, how is ROAD coded?

- (A) BYKN (B) WTFI (C) IFTW (D) MJVY

Answer Key

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

Solutions

Q1. (C) Counting Suresh only once: $7 + 11 - 1 = 17$ people.

Q2. (C) Subtracting 10 from 80 gives 70.

Q3. (B) Every triangle has apex A and two of the 4 base points as its other corners. Choosing 2 from 4 gives 6 triangles.

Q4. (C) $11 + 14 - 3 = 22$. The 3 who play both were counted twice, so they are subtracted once.

Q5. (A) Counting lines of symmetry: rectangle has 2, square has 4, regular hexagon has 6, equilateral triangle has 3. The answer is figure (A).

Q6. (B) Each letter moves 2 place(s) forward in the alphabet, so SUN becomes UWP.

- Q7. (B) Each letter moves 3 place(s) forward in the alphabet, so after K comes N.
- Q8. (C) The father is $8 + 9 = 17$ now, so after 2 years he will be $17 + 2 = 19$ years.
- Q9. (D) The second number is the first multiplied by itself: $9 \times 9 = 81$, so $7 \times 7 = 49$.
- Q10. (B) The gaps grow by one each time (+2, +3, +4, +5), so after K the next letter is P.
- Q11. (C) The 3 m south cancels part of the 9 m north, leaving $9 - 3 = 6$ m north, and the 5 m east is unchanged. So Nila is 6 m north and 5 m east.
- Q12. (C) 16 days later is 2 week(s) and 2 day(s), so the day moves 2 place(s) on from Tuesday to Thursday.
- Q13. (B) April has 30 days while the others have 31.
- Q14. (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.
- Q15. (B) In alphabetical order the words run mango, maple, matter, mother, so mango comes first.
- Q16. (C) Position from the right = total - position from the left + 1 = $24 - 15 + 1 = 10$ th.
- Q17. (C) Godavari, Ganga, Yamuna are all rivers; Sahara is not.
- Q18. (A) Each number is 9 more than the one before it, so the next is $38 + 9 = 47$.
- Q19. (A) Every other number is a multiple of 4. 34 is not.
- Q20. (D) The two 6 m walks (north, then south) cancel out, leaving only the 3 m walked towards the east. So the answer is 3 m, East.
- Q21. (C) I is letter 9 and N is letter 14 and K is letter 11, so $INK = 9 - 14 - 11$.
- Q22. (A) The rule is: multiply the two numbers, then subtract 2. Check: 4, 2 gives 6 and 9, 6 gives 52; so 6, 8 gives 46.
- Q23. (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.
- Q24. (B) From "All squares are rectangles. All rectangles have four sides." it follows necessarily that all squares have four sides.
- Q25. (B) Each number is doubled and 1 is added: $31 \times 2 + 1 = 63$.
- Q26. (C) The second word relates to the first in the same way Pharmacy relates to Medicine.
- Q27. (B) Counting Nita only once: $8 + 9 - 1 = 16$ people.
- Q28. (A) Subtracting 3 from 12 gives 9.
- Q29. (A) $8 + 8 - 3 = 13$. The 3 who play both were counted twice, so they are subtracted once.
- Q30. (D) Counting lines of symmetry: square has 4, regular hexagon has 6, regular pentagon has 5, equilateral triangle has 3. The answer is figure (D).
- Q31. (D) Each letter moves 2 place(s) forward in the alphabet, so PEN becomes RGP.
- Q32. (D) Each letter moves 3 place(s) forward in the alphabet, so after T comes W.
- Q33. (B) The father is $10 + 4 = 14$ now, so after 7 years he will be $14 + 7 = 21$ years.
- Q34. (B) The second number is the first multiplied by itself: $8 \times 8 = 64$, so $3 \times 3 = 9$.
- Q35. (A) The gaps grow by one each time (+2, +3, +4, +5), so after J the next letter is O.
- Q36. (C) The 3 m south cancels part of the 6 m north, leaving $6 - 3 = 3$ m north, and the 9 m east is unchanged. So Ravi is 3 m north and 9 m east.
- Q37. (A) 17 days later is 2 week(s) and 3 day(s), so the day moves 3 place(s) on from Thursday to Sunday.
- Q38. (A) Position from the right = total - position from the left + 1 = $33 - 26 + 1 = 8$ th.
- Q39. (A) Each number is 7 more than the one before it, so the next is $29 + 7 = 36$.
- Q40. (A) Every other number is a multiple of 3. 31 is not.
- Q41. (B) The two 6 m walks (north, then south) cancel out, leaving only the 2 m walked towards the east. So the answer is 2 m, East.
- Q42. (B) P is letter 16 and E is letter 5 and N is letter 14, so $PEN = 16 - 5 - 14$.

- Q43. (D) The rule is: multiply the two numbers, then add 1. Check: 7, 7 gives 50 and 4, 4 gives 17; so 5, 6 gives 31.
- Q44. (B) Each number is doubled and 3 is added: $53 \times 2 + 3 = 109$.
- Q45. (A) The second word relates to the first in the same way Puppy relates to Dog.
- Q46. (B) The 4 numbers add up to $29 \times 4 = 116$. The given numbers add up to 114, so the missing number is $116 - 114 = 2$.
- Q47. (B) The minute hand is at 180° from 12 and the hour hand at 225° from 12, so the angle between them is 45° .
- Q48. (B) A loop that runs 5 times prints 5 stars.
- Q49. (C) The numbers are 64, 70, 76, 82 — 4 of them.
- Q50. (B) Every letter moves 5 place(s) forward, so ROAD becomes WTFI.

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