

Class 8 · 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 row of 23 children, Arjun is 15th from the left end. What is Arjun's position from the right end?

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

Q2. 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) E (C) B (D) D

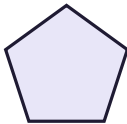
Q3. In a certain code JAR is written as KBS. How is BAT written in that code?

- (A) AZS (B) UBC (C) CBU (D) DCV

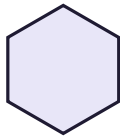
Q4. A father is 25 years older than his son. The son is 9 years old now. How old will the father be after 4 years?

- (A) 42 years (B) 39 years (C) 34 years (D) 38 years

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



(A)



(B)



(C)



(D)

Q6. Which letter comes next? G, I, L, P, ____

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

Q7. Count backward in 3s: 27, 24, 21, 18, ____

- (A) 15 (B) 16 (C) 18 (D) 12

Q8. Three of the following four are alike and form a group. Which one does NOT belong?

- (A) Chair (B) Train (C) Car (D) Bus

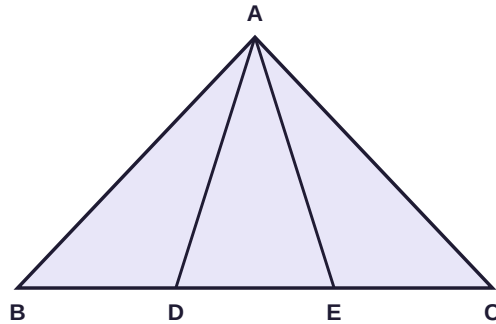
Q9. Which letter comes next? C, G, K, O, ____

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

Q10. Bird : Nest :: Bee : ____

- (A) Burrow (B) Cave (C) Web (D) Hive

Q11. How many triangles are there in the given figure?



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

Q12. Find the next number in the pattern: 5, 12, 26, 54, ____

- (A) 111 (B) 110 (C) 108 (D) 112

Q13. Find the next number in the pattern: 18, 28, 38, 48, ____

- (A) 59 (B) 48 (C) 68 (D) 58

Q14. In a queue, Suresh is 7th from the front and 12th from the back. How many people are in the queue altogether?

- (A) 17 (B) 20 (C) 19 (D) 18

Q15. Find the odd one out: 8, 9, 12, 18, 27

- (A) 18 (B) 12 (C) 8 (D) 27

Q16. In the first row the numbers are 5, 7 and 34. In the second row they are 4, 2 and 7. In the third row they are 6, 7 and ____ . The same rule applies to every row.

- (A) 41 (B) 40 (C) 43 (D) 42

Q17. 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) Uncle (B) Brother (C) Nephew (D) Cousin

Q18. Which one does NOT belong with the others?

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

Q19. Kabir walks 9 m towards north, turns right and walks 6 m, then turns right again and walks 9 m. How far is Kabir from the starting point, and in which direction?

- (A) 6 m, East (B) 15 m, North (C) 6 m, West (D) 9 m, East

Q20. If JAR is written as 10 - 1 - 18 using the positions of the letters in the alphabet, how is SUN written?

- (A) 20 - 22 - 15 (B) 14 - 21 - 19 (C) 8 - 6 - 13 (D) 19 - 21 - 14

Q21. If the 15th of a month is a Saturday, what day of the week is the 28th of the same month?

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

Q22. Read the statements and choose the conclusion that MUST be true.

All metals conduct electricity. Copper is a metal.

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

Q23. $4 : 16 :: 7 : \underline{\hspace{1cm}}$

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

Q24. In a class, 19 students play cricket, 16 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) 35 (B) 31 (C) 25 (D) 30

Q25. Which word would come FIRST in a dictionary?

- (A) monkey (B) marble (C) mother (D) metal

Q26. In a row of 23 children, Imran is 17th from the left end. What is Imran's position from the right end?

- (A) 9th (B) 7th (C) 8th (D) 6th

Q27. In a certain code JAR is written as KBS. How is PEN written in that code?

- (A) ODM (B) RGP (C) QFO (D) OFQ

Q28. A father is 12 years older than his son. The son is 20 years old now. How old will the father be after 3 years?

- (A) 32 years (B) 35 years (C) 38 years (D) 36 years

Q29. Which letter comes next? A, C, F, J, $\underline{\hspace{1cm}}$

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

Q30. Count backward in 5s: 30, 25, 20, 15, $\underline{\hspace{1cm}}$

- (A) 10 (B) 5 (C) 11 (D) 15

Q31. Eye : See :: Ear : $\underline{\hspace{1cm}}$

- (A) Hear (B) Touch (C) Taste (D) Smell

Q32. Find the next number in the pattern: 4, 9, 19, 39, $\underline{\hspace{1cm}}$

- (A) 79 (B) 80 (C) 77 (D) 78

Q33. Find the next number in the pattern: 7, 12, 17, 22, $\underline{\hspace{1cm}}$

- (A) 32 (B) 27 (C) 22 (D) 28

Q34. In a queue, Deep is 4th from the front and 11th from the back. How many people are in the queue altogether?

- (A) 13 (B) 16 (C) 14 (D) 15

Q35. Ravi walks 6 m north, then 4 m east, then 3 m south. Where is Ravi now, relative to the starting point?

- (A) 3 m north and 4 m east (B) 6 m north and 4 m east
(C) 3 m north and 5 m east (D) 4 m north and 4 m east

Q36. Find the odd one out: 27, 36, 45, 63, 89

- (A) 63 (B) 45 (C) 27 (D) 89

Q37. In the first row the numbers are 3, 7 and 22. In the second row they are 8, 5 and 41. In the third row they are 4, 7 and $\underline{\hspace{1cm}}$. The same rule applies to every row.

- (A) 28 (B) 29 (C) 31 (D) 30

Q38. 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) Brother (B) Uncle (C) Cousin (D) Nephew

Q39. Arjun walks 7 m towards north, turns right and walks 5 m, then turns right again and walks 7 m. How far is Arjun from the starting point, and in which direction?

- (A) 5 m, West (B) 5 m, East (C) 7 m, East (D) 12 m, North

Q40. 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

Q41. If the 8th of a month is a Monday, what day of the week is the 21st of the same month?

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

Q42. $5 : 25 :: 11 : \underline{\hspace{1cm}}$

- (A) 100 (B) 121 (C) 144 (D) 22

Q43. In a class, 16 students play cricket, 15 play football and 4 play both games. Every student plays at least one of the two. How many students are there in the class?

- (A) 31 (B) 28 (C) 23 (D) 27

Q44. In a row of 34 children, Arjun is 27th from the left end. What is Arjun's position from the right end?

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

Q45. In a certain code FAN is written as JER. How is DOG written in that code?

- (A) HSK (B) KSH (C) ITL (D) ZKC

Achievers Section

5 questions · 3 marks each · 15 marks

Q46. 3 taps together fill a tank in 80 minutes. How long will 8 taps of the same kind take to fill it?

- (A) 30 minutes (B) 27 minutes (C) 33 minutes (D) 80 minutes

Q47. Rahul finished the puzzle in two minutes and said it was 'to break the ice'. What did he mean?

- (A) to start a conversation (B) to go skating
(C) to spoil a plan (D) to feel cold

Q48. Using each of the digits 8, 1, 0, 3 exactly once, what is the smallest 4-digit number that can be formed?

- (A) 8310 (B) 1047 (C) 0138 (D) 1038

Q49. How many numbers between 40 and 65 leave a remainder of 2 when divided by 6?

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

Q50. 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) Yes, because they are already 18 by then
(C) No, only after turning 19 (D) No, voting starts at 21

Answer Key

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

Solutions

Q1. (D) Position from the right = total - position from the left + 1 = 23 - 15 + 1 = 9th.

Q2. (B) 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.

Q3. (C) Each letter moves 1 place(s) forward in the alphabet, so BAT becomes CBU.

Q4. (D) The father is $9 + 25 = 34$ now, so after 4 years he will be $34 + 4 = 38$ years.

Q5. (C) Counting lines of symmetry: regular pentagon has 5, regular hexagon has 6, rectangle has 2, square has 4. The answer is figure (C).

Q6. (A) The gaps grow by one each time (+2, +3, +4, +5), so after P the next letter is U.

Q7. (A) Subtracting 3 from 18 gives 15.

Q8. (A) Bus, Train, Car are all vehicles; Chair is not.

Q9. (C) Each letter moves 4 place(s) forward in the alphabet, so after O comes S.

Q10. (D) Nest is where a bird lives or belongs, in the same way Hive goes with bee.

Q11. (C) Every triangle has apex A and two of the 4 base points as its other corners. Choosing 2 from 4 gives 6 triangles.

Q12. (B) Each number is doubled and 2 is added: $54 \times 2 + 2 = 110$.

Q13. (D) Each number is 10 more than the one before it, so the next is $48 + 10 = 58$.

Q14. (D) Counting Suresh only once: $7 + 12 - 1 = 18$ people.

Q15. (C) Every other number is a multiple of 3. 8 is not.

Q16. (A) The rule is: multiply the two numbers, then subtract 1. Check: 5, 7 gives 34 and 4, 2 gives 7; so 6, 7 gives 41.

Q17. (B) 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.

Q18. (B) Bat is a mammal, not a bird.

Q19. (A) The two 9 m walks (north, then south) cancel out, leaving only the 6 m walked towards the east. So the answer is 6 m, East.

Q20. (D) S is letter 19 and U is letter 21 and N is letter 14, so SUN = 19 - 21 - 14.

Q21. (A) 13 days later is 1 week(s) and 6 day(s), so the day moves 6 place(s) on from Saturday to Friday.

Q22. (A) From "All metals conduct electricity. Copper is a metal." it follows necessarily that copper conducts electricity.

Q23. (D) The second number is the first multiplied by itself: $4 \times 4 = 16$, so $7 \times 7 = 49$.

Q24. (D) $19 + 16 - 5 = 30$. The 5 who play both were counted twice, so they are subtracted once.

Q25. (B) In alphabetical order the words run marble, metal, monkey, mother, so marble comes first.

- Q26. (B) Position from the right = total - position from the left + 1 = $23 - 17 + 1 = 7$ th.
- Q27. (C) Each letter moves 1 place(s) forward in the alphabet, so PEN becomes QFO.
- Q28. (B) The father is $20 + 12 = 32$ now, so after 3 years he will be $32 + 3 = 35$ years.
- Q29. (A) The gaps grow by one each time (+2, +3, +4, +5), so after J the next letter is O.
- Q30. (A) Subtracting 5 from 15 gives 10.
- Q31. (A) The second word relates to the first in the same way Hear relates to Ear.
- Q32. (A) Each number is doubled and 1 is added: $39 \times 2 + 1 = 79$.
- Q33. (B) Each number is 5 more than the one before it, so the next is $22 + 5 = 27$.
- Q34. (C) Counting Deep only once: $4 + 11 - 1 = 14$ people.
- Q35. (A) The 3 m south cancels part of the 6 m north, leaving $6 - 3 = 3$ m north, and the 4 m east is unchanged. So Ravi is 3 m north and 4 m east.
- Q36. (D) Every other number is a multiple of 9. 89 is not.
- Q37. (B) The rule is: multiply the two numbers, then add 1. Check: 3, 7 gives 22 and 8, 5 gives 41; so 4, 7 gives 29.
- Q38. (A) 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.
- Q39. (B) The two 7 m walks (north, then south) cancel out, leaving only the 5 m walked towards the east. So the answer is 5 m, East.
- Q40. (B) C is letter 3 and U is letter 21 and P is letter 16, so $CUP = 3 - 21 - 16$.
- Q41. (C) 13 days later is 1 week(s) and 6 day(s), so the day moves 6 place(s) on from Monday to Sunday.
- Q42. (B) The second number is the first multiplied by itself: $5 \times 5 = 25$, so $11 \times 11 = 121$.
- Q43. (D) $16 + 15 - 4 = 27$. The 4 who play both were counted twice, so they are subtracted once.
- Q44. (C) Position from the right = total - position from the left + 1 = $34 - 27 + 1 = 8$ th.
- Q45. (A) Each letter moves 4 place(s) forward in the alphabet, so DOG becomes HSK.
- Q46. (A) One tap alone would take $3 \times 80 = 240$ minutes. With 8 taps the time is $240 / 8 = 30$ minutes.
- Q47. (A) In this sentence 'to break the ice' means to start a conversation.
- Q48. (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: 1038.
- Q49. (B) The numbers are 44, 50, 56, 62 — 4 of them.
- Q50. (B) 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.

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