

Class 6 · Mathematics 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

15 questions · 1 mark each · 15 marks

Q1. Three of the following four are alike and form a group. Which one does NOT belong?

- (A) Paper (B) Copper (C) Iron (D) Silver

Q2. In a certain code JAR is written as LCT. How is SUN written in that code?

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

Q3. Which one does NOT belong with the others?

- (A) Gold (B) Wood (C) Copper (D) Iron

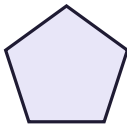
Q4. In a queue, Suresh is 9th from the front and 8th from the back. How many people are in the queue altogether?

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

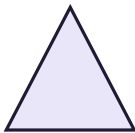
Q5. Eye : See :: Ear : ____

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

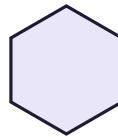
Q6. Which of these figures has exactly 3 lines of symmetry?



(A)



(B)



(C)



(D)

Q7. Which letter comes next? L, N, P, R, ____

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

Q8. Find the next number in the pattern: 4, 11, 25, 53, ____

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

Q9. Nila walks 5 m north, then 3 m east, then 2 m south. Where is Nila now, relative to the starting point?

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

Q10. 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) Nephew (C) Cousin (D) Uncle

Q11. Which letter comes next? D, F, I, M, ____

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

Q12. If RAT is written as 18 - 1 - 20 using the positions of the letters in the alphabet, how is BUS written?

- (A) 19 - 21 - 2 (B) 3 - 22 - 20 (C) 2 - 21 - 19 (D) 25 - 6 - 8

Q13. $6 : 36 :: 3 : \underline{\hspace{1cm}}$

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

Q14. A father is 13 years older than his son. The son is 10 years old now. How old will the father be after 5 years?

- (A) 28 years (B) 29 years (C) 23 years (D) 33 years

Q15. Count backward in 5s: 45, 40, 35, 30, ____

- (A) 26 (B) 30 (C) 20 (D) 25

Mathematical Reasoning

20 questions · 1 mark each · 20 marks

Q16. $2,83,774 - 1,61,732 = ?$

- (A) 1,22,042 (B) 1,22,142 (C) 1,22,032 (D) 1,32,042

Q17. $9 \text{ kg } 150 \text{ g} - 2 \text{ kg } 80 \text{ g} = ?$

- (A) 7 kg 10 g (B) 8 kg 70 g (C) 7 kg 70 g (D) 7 kg 170 g

Q18. $352 \times 14 = ?$

- (A) 5,280 (B) 4,914 (C) 5,028 (D) 4,928

Q19. Round 2,770 to the nearest thousand.

- (A) 4,000 (B) 2,800 (C) 2,000 (D) 3,000

Q20. What is the smallest number that can be divided exactly by both 6 and 8?

- (A) 24 (B) 16 (C) 30 (D) 8

Q21. What is the place value of 8 in the number 73,38,539?

- (A) 8,000 (B) 8 (C) 800 (D) 80,000

Q22. Find the next number: 2, 6, 12, 20, 30, ____

- (A) 42 (B) 44 (C) 48 (D) 40

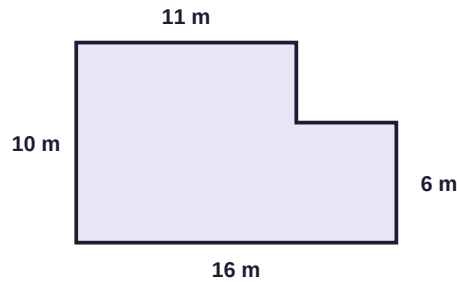
Q23. $6 \text{ L } 650 \text{ mL} \times 2 = ?$

- (A) 13 L 400 mL (B) 14 L 300 mL (C) 13 L 200 mL (D) 13 L 300 mL

Q24. At 6 a.m. the temperature was 14°C . By noon it had risen by 6°C , and by night it had fallen by 2°C . What was the temperature at night?

- (A) 16°C (B) 20°C (C) 18°C (D) 19°C

Q25. The figure shows a plot of land. What is its area?



- (A) 160 sq m (B) 140 sq m (C) 135 sq m (D) 144 sq m

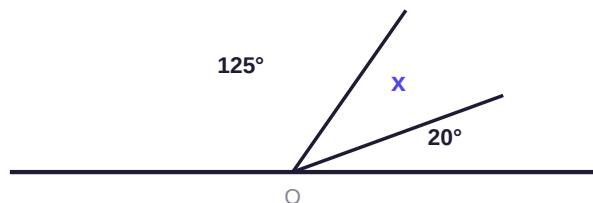
Q26. The perimeter of a square is 44 cm. What is its area?

- (A) 144 sq cm (B) 121 sq cm (C) 132 sq cm (D) 44 sq cm

Q27. $\frac{2}{3} + \frac{10}{12} = ?$

- (A) $1 \frac{1}{6}$ (B) $1 \frac{1}{2}$ (C) $1 \frac{7}{12}$ (D) 2

Q28. In the given figure, find the value of x.



- (A) 45° (B) 55° (C) 25° (D) 35°

Q29. 6.7 km = _____ m

- (A) 67 (B) 67,000 (C) 670 (D) 6,700

Q30. Which of these fractions is the greatest?

- (A) $\frac{3}{4}$ (B) $\frac{7}{10}$ (C) $\frac{5}{8}$ (D) $\frac{7}{12}$

Q31. $85 - 48.70 = ?$

- (A) 37.30 (B) 36.20 (C) 36.40 (D) 36.30

Q32. $2,125 \div 25 = ?$

- (A) 95 (B) 86 (C) 75 (D) 85

Q33. $4,93,196 - 3,86,772 = ?$

- (A) 1,06,424 (B) 1,06,524 (C) 1,06,414 (D) 1,16,424

Q34. 5 kg 250 g - 2 kg 320 g = ?

- (A) 3 kg 930 g (B) 2 kg 930 g (C) 3 kg 30 g (D) 2 kg 870 g

Q35. $375 \times 32 = ?$

- (A) 12,000 (B) 12,100 (C) 12,375 (D) 11,968

Q36. A train leaves at 8:40 a.m. and reaches its destination at 4:01 p.m. on the same day. How long is the journey?

- (A) 8 h 21 min (B) 7 h 21 min (C) 6 h 21 min (D) 7 h 31 min

Q37. One dozen pens cost ₹ 192. What is the cost of 7 pens?

- (A) ₹ 96 (B) ₹ 144 (C) ₹ 128 (D) ₹ 112

Q38. A shopkeeper sells 11 kg of rice at ₹ 63 per kg. How much money does he receive?

- (A) ₹ 593 (B) ₹ 704 (C) ₹ 793 (D) ₹ 693

Q39. A wall is 7 m long and 2 m high. How many square tiles of side 25 cm are needed to cover it completely?

- (A) 224 (B) 236 (C) 112 (D) 448

Q40. In a class of 32 students, $\frac{2}{8}$ are girls. How many boys are there?

- (A) 24 (B) 19 (C) 29 (D) 8

Q41. A rope 9 m long is cut into pieces each 50 cm long. How many complete pieces are obtained?

- (A) 18 (B) 16 (C) 23 (D) 20

Q42. An auto charges ₹ 25 for the first kilometre and ₹ 12 for every kilometre after that. What is the fare for a journey of 9 km?

- (A) ₹ 122 (B) ₹ 133 (C) ₹ 109 (D) ₹ 121

Q43. A book has 247 pages. Ritu reads 25 pages every day for 9 days. How many pages are still left?

- (A) 225 (B) 22 (C) 27 (D) 17

Q44. A water tank holds 200 litres. If $\frac{2}{5}$ of the water is used, how much water is left?

- (A) 120 L (B) 80 L (C) 145 L (D) 95 L

Q45. A train leaves at 7:00 a.m. and reaches its destination at 11:59 a.m. on the same day. How long is the journey?

- (A) 4 h 59 min (B) 3 h 59 min (C) 5 h 59 min (D) 4 h 49 min

Achievers Section

5 questions · 3 marks each · 15 marks

Q46. 5 taps together fill a tank in 48 minutes. How long will 8 taps of the same kind take to fill it?

- (A) 30 minutes (B) 48 minutes (C) 33 minutes (D) 27 minutes

Q47. How many numbers between 40 and 65 leave a remainder of 4 when divided by 6?

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

Q48. Find the next number: 5, 7, 11, 17, 25, ____

- (A) 33 (B) 35 (C) 37 (D) 36

Q49. The clock in the figure shows 8:30. What is the angle between the hour hand and the minute hand?



- (A) 75° (B) 105° (C) 90° (D) 60°

Q50. Using each of the digits 0, 4, 5, 3 exactly once, what is the smallest 4-digit number that can be formed?

- (A) 0345 (B) 3054 (C) 5430 (D) 3045

Answer Key

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

Solutions

Q1. (A) Iron, Copper, Silver are all metals; Paper is not.

Q2. (C) Each letter moves 2 place(s) forward in the alphabet, so SUN becomes UWP.

Q3. (B) Wood is not a metal.

Q4. (A) Counting Suresh only once: $9 + 8 - 1 = 16$ people.

Q5. (C) The second word relates to the first in the same way Hear relates to Ear.

Q6. (B) Counting lines of symmetry: regular pentagon has 5, equilateral triangle has 3, regular hexagon has 6, rectangle has 2. The answer is figure (B).

Q7. (D) Each letter moves 2 place(s) forward in the alphabet, so after R comes T.

Q8. (D) Each number is doubled and 3 is added: $53 \times 2 + 3 = 109$.

Q9. (A) The 2 m south cancels part of the 5 m north, leaving $5 - 2 = 3$ m north, and the 3 m east is unchanged. So Nila is 3 m north and 3 m east.

- Q10. (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.
- Q11. (A) The gaps grow by one each time (+2, +3, +4, +5), so after M the next letter is R.
- Q12. (C) B is letter 2 and U is letter 21 and S is letter 19, so $BUS = 2 - 21 - 19$.
- Q13. (C) The second number is the first multiplied by itself: $6 \times 6 = 36$, so $3 \times 3 = 9$.
- Q14. (A) The father is $10 + 13 = 23$ now, so after 5 years he will be $23 + 5 = 28$ years.
- Q15. (D) Subtracting 5 from 30 gives 25.
- Q16. (A) $2,83,774 - 1,61,732 = 1,22,042$.
- Q17. (C) $9 \text{ kg } 150 \text{ g} = 9,150 \text{ g}$ and $2 \text{ kg } 80 \text{ g} = 2,080 \text{ g}$. $9,150 - 2,080 = 7,070 \text{ g} = 7 \text{ kg } 70 \text{ g}$.
- Q18. (D) $352 \times 14 = 352 \times 10 + 352 \times 4 = 3,520 + 1,408 = 4,928$.
- Q19. (D) The hundreds digit is 7, so we round up to 3,000.
- Q20. (A) Listing multiples of 6 and of 8, the first number that appears in both lists is 24.
- Q21. (A) The digit 8 stands in the 1,000 place, so its place value is 8,000.
- Q22. (A) The gaps are 4, 6, 8, 10, so the next gap is 12 and $30 + 12 = 42$.
- Q23. (D) $6 \text{ L } 650 \text{ mL} = 6,650 \text{ mL}$. $6,650 \times 2 = 13,300 \text{ mL} = 13 \text{ L } 300 \text{ mL}$.
- Q24. (C) $14 + 6 = 20$, then $20 - 2 = 18^\circ\text{C}$.
- Q25. (B) The missing corner is $(16 - 11) = 5 \text{ m}$ wide and $(10 - 6) = 4 \text{ m}$ tall. Take the full rectangle $16 \text{ m} \times 10 \text{ m} = 160 \text{ sq m}$ and subtract that corner, $5 \text{ m} \times 4 \text{ m} = 20 \text{ sq m}$. $160 - 20 = 140 \text{ sq m}$.
- Q26. (B) Side = $44 / 4 = 11 \text{ cm}$, so area = $11 \times 11 = 121 \text{ sq cm}$.
- Q27. (B) Make the denominators the same (12): $2/3 = 8/12$ and $10/12 = 10/12$. Adding gives $18/12 = 1 \frac{1}{2}$.
- Q28. (D) The three angles lie on a straight line, so they add to 180° . $x = 180^\circ - 125^\circ - 20^\circ = 35^\circ$.
- Q29. (D) $1 \text{ km} = 1,000 \text{ m}$, so $6.7 \text{ km} = 6.7 \times 1,000 = 6,700 \text{ m}$.
- Q30. (A) As decimals: $7/10 = 0.700$, $7/12 = 0.583$, $3/4 = 0.750$, $5/8 = 0.625$. The greatest is $3/4$.
- Q31. (D) Write 85 as 85.00, then $85.00 - 48.70 = 36.30$.
- Q32. (D) $25 \times 85 = 2,125$, so the quotient is 85.
- Q33. (A) $4,93,196 - 3,86,772 = 1,06,424$.
- Q34. (B) $5 \text{ kg } 250 \text{ g} = 5,250 \text{ g}$ and $2 \text{ kg } 320 \text{ g} = 2,320 \text{ g}$. $5,250 - 2,320 = 2,930 \text{ g} = 2 \text{ kg } 930 \text{ g}$.
- Q35. (A) $375 \times 32 = 375 \times 30 + 375 \times 2 = 11,250 + 750 = 12,000$.
- Q36. (B) From 8:40 a.m. to 4:01 p.m. is 7 h 21 min.
- Q37. (D) One pen costs $192 / 12 = ₹ 16$, so 7 pens cost $7 \times 16 = ₹ 112$.
- Q38. (D) $11 \times 63 = ₹ 693$.
- Q39. (A) The wall is $700 \text{ cm} \times 200 \text{ cm} = 1,40,000 \text{ sq cm}$. Each tile is $25 \times 25 = 625 \text{ sq cm}$. $1,40,000 / 625 = 224$ tiles.
- Q40. (A) $2/8$ of 32 = 8 girls, so the number of boys is $32 - 8 = 24$.
- Q41. (A) $9 \text{ m} = 900 \text{ cm}$ and $900 / 50 = 18$ pieces.
- Q42. (D) After the first kilometre there are 8 more: $25 + 8 \times 12 = ₹ 121$.
- Q43. (B) She reads $25 \times 9 = 225$ pages, so $247 - 225 = 22$ pages are left.
- Q44. (A) $2/5$ of 200 = 80 L is used, so $200 - 80 = 120 \text{ L}$ is left.
- Q45. (A) From 7:00 a.m. to 11:59 a.m. is 4 h 59 min.
- Q46. (A) One tap alone would take $5 \times 48 = 240$ minutes. With 8 taps the time is $240 / 8 = 30$ minutes.
- Q47. (D) The numbers are 46, 52, 58, 64 — 4 of them.
- Q48. (B) The gaps grow 2, 4, 6, 8, so the next gap is 10 and $25 + 10 = 35$.
- Q49. (A) The minute hand is at 180° from 12 and the hour hand at 255° from 12, so the angle between them is 75° .

Q50. (D) A 4-digit number cannot begin with 0, so the smallest possible first digit is 3. The remaining digits are then placed in increasing order: 3045.

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