



Mindathon

MMO OLYMPIAD

WORKBOOK

MINDATHON MATHEMATICS OLYMPIAD



By

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PREFACE

Mathematics is not just a subject but a way of thinking, exploring, and solving problems that challenge our minds. The Mindathon Mathematics Olympiad epitomizes this intellectual pursuit, providing young mathematicians a platform to showcase their talents and expand their understanding.

Our curriculum aligns with the National Curriculum framework's vision, emphasizing holistic growth through critical thinking, hands-on experience, and the development of mathematical skills. We aim to empower learners to engage meaningfully in their educational journey.

This book is designed to offer a stimulating and enriching experience, strengthening mathematical concepts through diverse exercises and challenges. It aligns with curriculum standards and promotes higher-order thinking and problem-solving skills.

Our primary goal is to make learning mathematics enjoyable and rewarding. To eliminate math phobia, each chapter facilitates a progressive learning journey, starting with foundational concepts and advancing to more complex topics. We help students connect mathematics to their daily experiences and present them with challenges to sharpen their skills.

This book also aims to instill a love for mathematics and build confidence. It is designed for students passionate about math, whether preparing for competitive exams or seeking to deepen their knowledge.

Embark on this mathematical journey with an open mind and a spirit of exploration. The joy of mathematics lies not just in finding the right answers but in the thrill of the quest itself. We wish you all the best in your mathematical endeavors. Happy solving!

Key features of the book

- Aligned with the National Curriculum Framework.
- Child-oriented, simple, and effective.
- Concept map for each chapter, linking all the subject topics.
- Chapter-wise summary at the beginning of each chapter.
- Multiple choice questions (MCQs) for concept solving, ranging from easy to moderate and difficult levels.
- Focus on reasoning and aptitude.
- Application-based problems.
- Case studies.
- Mindathon's challenger's zone.
- Hints for difficult problems.
- Sample paper for practice.

Edition : New Edition

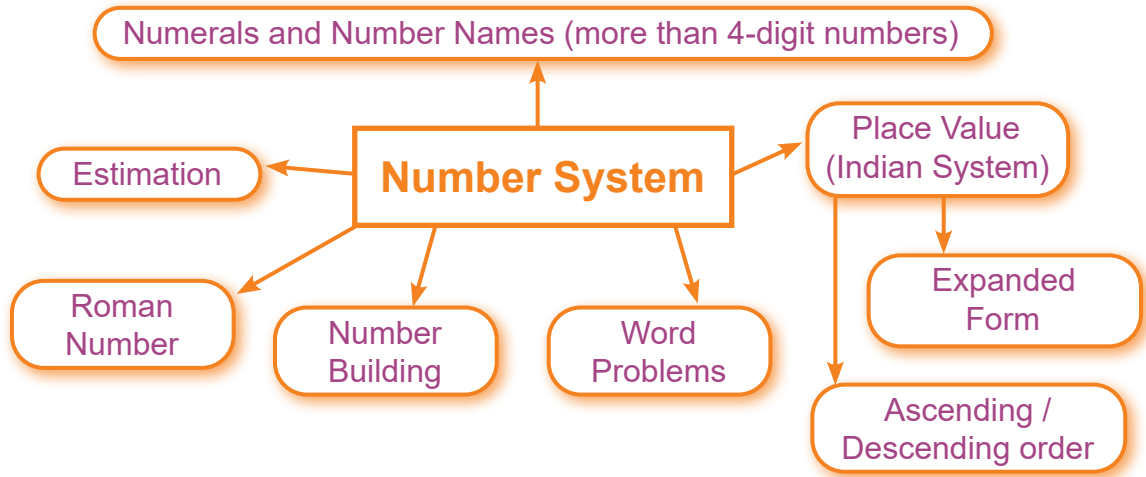
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CLASS-4
OLYMPIAD PRACTICE QUESTIONS

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Summary:

- 1) Estimating / Rounding off a number to nearest tens, depends on the digit at the one's place.
- 2) Similarly rounding off a number to nearest hundreds place, depends on the digit at the ten's place.

3) Roman Number System:

Roman Number System	I	V	X	L	C	D	M
Hindu Arabic System	1	5	10	50	100	500	1000

- 4) In Roman number system, putting a letter after the letter of a bigger value means you add it. Putting a letter before the letter of a bigger value means you subtract it.





Section A: Reasoning and Aptitude

1. Using the digits 2, 3, 8, 9, 0, find the smallest five digit number.

- (a) 23890 (b) 20389 (c) 02389 (d) 30289

1.

(A)

(B)

(C)

(D)

2. Using the digits 2, 3, 0, 7, find the largest five digit number by repeating any one digit.

- (a) 73200 (b) 20037 (c) 70032 (d) 77320

2.

(A)

(B)

(C)

(D)

3. 100 thousands is same as _____.

- (a) 10 crore (b) 10 lakh (c) 1 lakh (d) 100 lakh

3.

(A)

(B)

(C)

(D)

4. If in the number 'Two lakh forty thousand three hundred nine', we interchange thousand's place with hundred's place then what is the new number formed?

- (a) 2,40,309 (b) 2,04,309 (c) 2,43,009 (d) 2,40,039

4.

(A)

(B)

(C)

(D)

5. In the number 43278, the product of place value of 3 with face value of 2 will give _____.

- (a) 6000 (b) 3,200 (c) 600 (d) 6,00,000

5.

(A)

(B)

(C)

(D)



6. Which of the following numbers is meaningless in Roman number system?

- (a) XXXV (b) XL (c) CDLII (d) IXIIV



7. If the expanded form of a number is $20000 + 400 + 70 + 3$ then the number is _____.

- (a) 2473 (b) 24730 (c) 20473 (d) 24073



8. 2,07,985 when rounded off to nearest hundred's place will give _____.

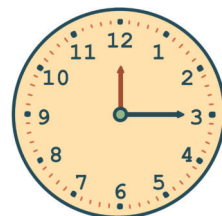
- (a) 2,07,900 (b) 2,08,000 (c) 2,07,990 (d) 2,07,980



9. What is the time in the clock shown here, in roman numerals?

_____ hrs _____ min.

- (a) XII, XV (b) XV, XII
(c) XII, VX (d) V, VVV



10. How many times does the place value of 7 in the numeral 237596 is greater than the face value of 7?

- (a) 1000 (b) 100 (c) 10000 (d) 10



11. What least number should be added to 12746 so that the place value of 8 in the resulting number becomes 800?

- (a) 32 (b) 54 (c) 64 (d) 88

11. (A) (B) (C) (D)

12. The successor of a number is 200 more than the successor of 480. Find the number.

- (a) 281 (b) 481 (c) 681 (d) 680

12. (A) (B) (C) (D)

13. Which of the following is not true?

- (P) Successor of an even number is an odd number.**
(Q) To find the predecessor, we add one to the number.
(R) The predecessor of 0 is not possible in whole numbers.
(S) An odd number has an even predecessor and an odd successor.

- (a) P and Q (b) Q and R (c) Q and S (d) P and S

13. (A) (B) (C) (D)

14. Fill in the blanks with the suitable symbol '>', '<' or '='

(325 ÷ 5) _____ (LXX - XV)

- (a) > (b) <
(c) = (d) Can't be decided

14. (A) (B) (C) (D)

15. If we interchange the place of symbols in the roman numeral CD, by how much value the numeral will increase?

- (a) 50 (b) 100 (c) 200 (d) 500

15. (A) (B) (C) (D)





Section B: Mathematics in Action

- 16. From a town, during elections, candidate A got 97785 votes. Round off his votes to nearest hundreds.**

(a) 94000 (b) 95000 (c) 94700 (d) 94800

16.

A

B

C

D

- 17. Reena tried writing the roman numeral for 456, but she made a mistake and wrote DCLVI. Which one of the following is the correct notation for 456?**

(a) CDXVI (b) CDLVI (c) CDMLVI (d) CDLIV

17.

A

B

C

D

- 18. Where should the symbol 'I' be placed in the Roman Numeral DCLXX so that it represents 669?**

(a) Between C and D (b) Between C and L
(c) Between X and X (d) Between L and X

18.

A

B

C

D

- 19. The cost of a laptop, after rounding off to hundred's place was ₹64,000. What could be the actual price of the laptop?**

(a) ₹63,899 (b) ₹64,782 (c) ₹64,035 (d) ₹64,985

19.

A

B

C

D

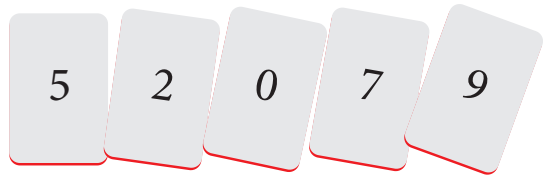


20. If the expanded form of a number, written by Rohit is $4000 + 30,000 + 90$, then what is the numeral form of this number?

- (a) 4,390 (b) 34,090 (c) 43,090 (d) 34,900



21. Shreya has the following cards with her. Which is the largest 5-digit number that she can make by using them.



- (a) 90,752 (b) 97,520
(c) 20,579 (d) 97,502



22. Population of Town A is 23,579 and that of Town B is twenty three thousand seven hundred fifty nine. Whose population is greater and by how much?

- (a) Town B, 180 (b) Town A, 180 (c) Town B, 150 (d) Town A, 150



23. A and B are natural numbers. Value of A is twice that of B. B is 2525 more than 42375. Find A.

- (a) 88,900 (b) 44,900 (c) 89,000 (d) 89,800



24. What is the successor of that number which is 1000 greater than 58999?

- (a) 60000 (b) 59999 (c) 50000 (d) 60001

24.

A

B

C

D

25. In the number 23085, if P is the place value of 3 and Q is the place value of 8 then find P + Q.

- (a) 30160 (b) 6080 (c) 3160 (d) 3080

25.

A

B

C

D



Section C: Mindathon Challenger's Zone

26. Which of the following statements is incorrect for the number 53,879?

- (a) It is the predecessor of 53,880
(b) The number name is fifty three thousand, eight hundred seventy nine.
(c) The expanded form is $50000 + 3000 + 800 + 70 + 9$
(d) The rounded off form of this number to nearest thousand is 53,000.

26.

A

B

C

D



- 27.** Bruno has total bones which is between 30 and 50. He counts his bones by putting them into piles of 4 bones, and finds that he has 3 bones left. If he makes piles of 7 bones then only 1 bone is left. How many bones he has?



- (a) 33 (b) 43 (c) 39 (d) 36

27.

A

B

C

D

- 28.** I am a five digit largest number in which place value of 7 is 7000 and place value of 5 is same as its face value. The hundred's place is having the smallest digit. Who am I?

- (a) 90708 (b) 99999 (c) 90785 (d) 97085

28.

A

B

C

D

- 29.** If the successor of a number is one less than the predecessor of another number, then the difference between the two numbers is _____.

- (a) 1 (b) 2 (c) 3 (d) 0

29.

A

B

C

D

- 30.** Compare the following numbers.

(P) XLVI XLIX

(Q) Largest 4-digit number Predecessor of smallest 5-digit number

(R) Twenty three thousand nine Twenty thousand three hundred nine.

- (a) <, =, > (b) >, =, < (c) <, =, < (d) <, >, =

30.

A

B

C

D



HINTS

- 14.** $325 \div 5 = 65$
 $LXX - XV = 70 - 15 = 55$
- 23.** $B = 2525 + 42375$
 $= 44900$
- 27.** Piles of 4, 3 left = 31, 35, 39, 43, 47
Piles of 7, 1 left = 36, 43
- 29.** Example: Successor of 37 = 38
38 is 1 less than 39
39 is predecessor of 40
Difference between 37 and 40 is 3

