I M O SOF

International Mathematics Olympiad

The actual test paper has 35 questions. Time allowed : 60 minutes. There are 3 sections: 10 questions in section I, 15 in section II and 10 in section III.
Section – I : Logical Reasoning, **Section II :** Mathematical Reasoning &
Section – III : Everyday Mathematics

SYLLABUS

Numerals and number name (5 digit number), Place value, Roman Numerals, Addition and Subtraction, Geometry : Square, Rectangle, Circle, Closed, Open Figure, Multiplication and Division, Factors and Multiples, Fractions, Measurement, Pictorial representation of data, Money, Time, Weight and capacity, Series and Pattern Formation of Numbers and Figures, Conversions, Comparison, Perimeter of various shapes, Direction sense, Mirror images, Embedded figures, Number ranking, Alphabetical test, Coding-Decoding, Mathematical Reasoning, Symmetry.

1. There are eighty-six thousand four hundred seconds in a day. How else could this number be written?
(A) 80,064
(B) 80,640
(C) 86,400
(D) 86,404

2. Leena and her mother made a quilt. They used 56 squares and made 8 rows. How many squares are in each row?
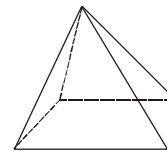(A) 6
(B) 7
(C) 8
(D) 9

3. 25 can be written as
(A) 1 ten 15 ones
(B) 2 tens 5 ones
(C) 5 tens 2 ones
(D) 3 tens 2 ones

4. Jyoti walked 3 km each day. How many kilometre had she walked after 14 days?
(A) 42
(B) 32
(C) 14
(D) 11

5. Ram, Rahul, and Rohit shared a bag of marbles. The bag contained 272 marbles. How many marbles were left over after the friends shared them equally?
(A) 90
(B) 91
(C) 6
(D) 2

6. What number goes on the line in the pattern?
1, 2, 4, 8, 16, _____, 64
(A) 20
(B) 26
(C) 32
(D) 34

7. How many vertices does this pyramid have?
(A) 4
(B) 5
(C) 6
(D) 8

8. Start at 23.
Count by 10 two times.
Add 1.
What number are you at?
(A) 33
(B) 44
(C) 55
(D) 45

9. If $\diamond \times 4 = \star$
$\star - \diamond = 330$, then
What is $\star + \diamond$?
(A) 110
(B) 440
(C) 550
(D) 990

10. Justin solved the problem below. Which expression could be used to check his answer?

$$3\overline{)1364} = 454 \text{ : Remainder} = 2$$

(A) (454 × 3) + 2
(B) (454 × 2) + 3
(C) (454 + 3) × 2
(D) (454 + 2) × 3

11. Which set of numbers is in order from greatest to least?
(A) 147, 163, 234, 275
(B) 275, 234, 163, 147
(C) 275, 163, 234, 147
(D) 163, 275, 234, 147

12. Aunt Ruby's clock is shown here.

If her niece is going to pick her up in 30 minutes, what time will be shown on the clock?

12:40

(A) 12 : 10   (B) 12 : 70   (C) 1 : 10   (D) 1 : 60

13. What is the best unit to use for measuring the amount of soda in a drink can?

(A) Millilitre   (B) Gallon   (C) Tablespoon   (D) Cup

14. What is the rule for this number pattern?

1, 1, 2, 6, 24, 120, . . .

(A) Add 0, then add 1, then add 2, and so on

(B) Multiply by 1, then multiply by 2, then multiply by 3, and so on

(C) Multiply by 1, then add 1

(D) Multiply by two, then subtract 1

15. Danny and Julie have new sticker books. Danny will put 4 stickers in his book every day and Julie will put 6 stickers in her book every day.

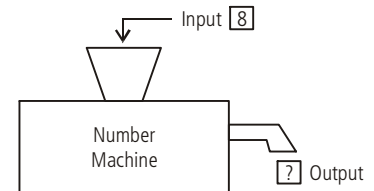How many stickers will Danny have when Julie has 30 in her book?

Day	Danny	Julie
1	4	6
2	8	12
3	12	18

(A) 20   (B) 24   (C) 28   (D) 30

16. When a number is put into the machine below, a different number comes out.

If 2 goes in, 6 comes out. If 4 goes in, 12 comes out. If 5 goes in, 15 comes out.

If 8 goes in, what number should come out?

Input 8

Number Machine

? Output

(A) 32   (B) 24

(C) 16   (D) 12

17. On Monday Sarah sold 54 cups of lemonade. On Tuesday she sold 71 cups of lemonade. How many more cups did she sell on Tuesday compared to Monday?

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

18. Alexa needs 74 beads to make a necklace. She has 39 beads. How many more beads does she need?

(A) 35   (B) 36   (C) 45   (D) 39

19. There are 3 rows of strawberry plants. Each row has 6 plants. How many strawberry plants in all?

(A) 9   (B) 18   (C) 22   (D) 24

20. The chart shows the number of eggs produced on a farm in the first five months of the year.

Month	Number of Eggs
January	596
February	422
March	587
April	490
May	516

Which of the following statements is true ?

(A) The number of eggs produced in March was less than in May.

(B) The number of eggs produced in April was less than in February.

(C) The number of eggs produced in January was less than in March.

(D) The number of eggs produced in May was less than in March.

1. NAME : If your name is SACHIT A IYER, then you should write as follows :

| S | A | C | H | I | T | | A | | I | Y | E | R | | | | | | | | | |

2. Father's Name : If your father's name is SATISH KUMAR SHARMA, then you should write as follows :

| S | A | T | I | S | H | | K | U | M | A | R | | S | H | A | R | M | A | | | |

SCHOOL CODE

3. SCHOOL CODE
Write your school code i.e. if your school code is MH0547 darken as follows :

Darken the circle

4. CLASS
If you are in Class 10, then you should darken as follows :

5. ROLL NO.
If your roll no. is 587, then you should write and darken the circles as follows :

CLASS   ROLL NO.

Darken the circle

6. GENDER
If you are a boy, then darken **Male** circle

GENDER

MALE ● FEMALE ○

CORRECT way to darken ☞ the circle

WRONG ☞ way to darken the circle

7. If your choice for Answer 1 is C, then you should darken the circle as follows :   **1.** Ⓐ Ⓑ ● Ⓓ

MARK YOUR ANSWERS WITH HB PENCIL/BALL POINT PEN (BLUE/BLACK)

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1. Ⓐ Ⓑ Ⓒ Ⓓ	5. Ⓐ Ⓑ Ⓒ Ⓓ	9. Ⓐ Ⓑ Ⓒ Ⓓ	13. Ⓐ Ⓑ Ⓒ Ⓓ	17. Ⓐ Ⓑ Ⓒ Ⓓ
2. Ⓐ Ⓑ Ⓒ Ⓓ	6. Ⓐ Ⓑ Ⓒ Ⓓ	10. Ⓐ Ⓑ Ⓒ Ⓓ	14. Ⓐ Ⓑ Ⓒ Ⓓ	18. Ⓐ Ⓑ Ⓒ Ⓓ
3. Ⓐ Ⓑ Ⓒ Ⓓ	7. Ⓐ Ⓑ Ⓒ Ⓓ	11. Ⓐ Ⓑ Ⓒ Ⓓ	15. Ⓐ Ⓑ Ⓒ Ⓓ	19. Ⓐ Ⓑ Ⓒ Ⓓ
4. Ⓐ Ⓑ Ⓒ Ⓓ	8. Ⓐ Ⓑ Ⓒ Ⓓ	12. Ⓐ Ⓑ Ⓒ Ⓓ	16. Ⓐ Ⓑ Ⓒ Ⓓ	20. Ⓐ Ⓑ Ⓒ Ⓓ

ANSWERS

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1. (C)   2. (B)   3. (B)   4. (A)   5. (D)   6. (C)   7. (B)   8. (B)   9. (C)   10. (A)
11. (B)   12. (C)   13. (A)   14. (B)   15. (A)   16. (B)   17. (C)   18. (A)   19. (B)   20. (D)