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ICO INTERNATIONAL CYBER OLYMPIAD	NISO NATIONAL INTERACTIVE SCIENCE OLYMPIAD	NIMO NATIONAL INTERACTIVE MATHS OLYMPIAD	NBTO NATIONAL BIOTECHNOLOGY OLYMPIAD	IEO INTERNATIONAL ENGLISH OLYMPIAD	IGO INTERNATIONAL G.K. OLYMPIAD
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Level - 1 : Level-1 winners will get certificate, aptitude report, medals for the school toppers and online subscription.

Level - 2 : Top 10 % including school toppers will be selected for level-2-National level - online computer based interactive test held at exam centres all over India. Besides selection for level-3, winner will get merit certificate, aptitude report, medals, Mp3 player, watches, educational CDs, laptop, scholarship, online subscription etc.

Level - 3 : Top 1% will qualify for level 3-International level-where you will compete with students globally. Get selected for EHF's International Olympiad training camp. Only Indian organization giving students exposure to global competitions. Represent India & win laurels. Guidance by top scientists.

Prizes ranges from cash (millions of \$), gadgets, foreign trips, publicity, fame, scholarships, Internships, conference participation and more.

- You are allowed additional 10 minutes to fill the required details in the **RESPONSE SHEET**.
- The question paper is made as per syllabus guidelines & pattern given in the information Booklet. The Question Paper for Classes 1 to 6 contains 25 Questions each to be answered in 40 minutes. The Question paper for classes 7 to 12 contains 50 Questions each to be answered in 60 minutes. All questions are compulsory. Further instructions are given in the instruction letter to the coordinator teacher.
- Use the response sheet to mark your responses by darkening the required circle. The response sheet has to be returned to the foundation, duly filled in. The student can retain the Question Paper.

NATIONAL INTERACTIVE MATHS OLYMPIAD

NIMO

7 Class **A1 Paper Code**

LEVEL - 1

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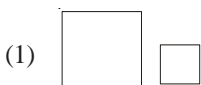
INTERNATIONAL SCIENCE AND ENGINEERING FAIR

H THE HARVARD - MIT MATHEMATICS TOURNAMENT

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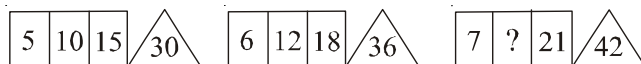
MENTAL ABILITY

- What is found necessarily in milk ?
(1) Cream (2) Water
(3) Whiteness (4) None of these
- Which word does not belong with the others.
(1) Hours (2) Seconds
(3) Inch (4) None of these
- What comes next in the series?



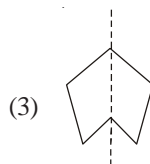
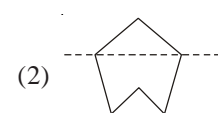
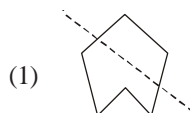
(4) None of these

- Which one replaces the question mark?



- (1) 14 (2) 13
(3) 15 (4) None of these

- Which shape is shown with its line of symmetry?

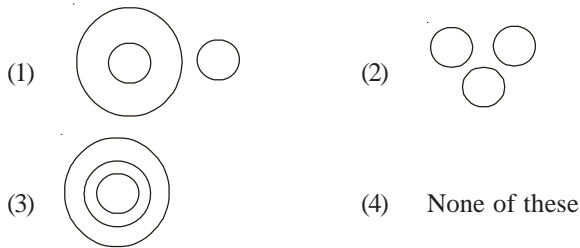


(4) None of these

- Choose the odd one out :

- (1) BD (2) IK
(3) PN (4) None of these

7. Which of the following diagrams indicates the best relation between India, Haryana and World ?



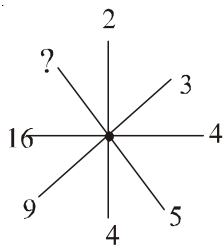
8. A man walks 5 km towards South and then turns to the right. After walking 3 km he turns to the left and walks 5 km. Now in which direction is he from the starting place ?

- (1) West (2) South
(3) South-West (4) None of these

9. The necessary part of a book is :

- (1) Fiction (2) Pictures
(3) Pages (4) None of these

10. Which one replaces the question mark



- (1) 24 (2) 26
(3) 25 (4) None of these

MATHEMATICS

11. The successor of $[-297 - (-6)]$ is
(1) 290 (2) -290
(3) -296 (4) None of these
12. Round off to the nearest 1000.
746312 \rightarrow
(1) 746300 (2) 746000
(3) 740000 (4) None of these
13. Represent 30 minutes as a decimal fraction of an hour .
(1) 0.5 hour (2) 0.6 hour
(3) 1 hour (4) None of these
14. Arrange the following decimal fractions in ascending order.
83.681, 92.738, 92.873, 83.686
(1) 83.686, 83.681, 92.738, 92.873
(2) 83.681, 83.686, 92.738, 92.873
(3) 92.738, 92.873, 83.686, 83.681
(4) None of these

15. The ratio of the number of apples to the number of oranges in a fruit basket is 2 : 3. If there are 98 apples, how many oranges are there in the fruit basket ?

- (1) 146 (2) 148
(3) 147 (4) None of these

16. A cycle shop sold a bicycle at ₹2,300.00 making a profit of ₹580.00. At what price was the cycle purchased by the shop?

- (1) ₹1720 (2) ₹1790
(3) ₹1820 (4) None of these

17. What distance does Rita cover, walking for 15 minutes at a speed of 4.5 km/hr ?

- (1) 1.125 (2) 1.124
(3) 1.214 (4) None of these

18. Acute angles are angles which measure less than _____

- (1) 180° (2) 45°
(3) 90° (4) None of these

19. When the sum of two adjacent angles is 90° , the angles are termed as _____.

- (1) Complementary angles
(2) Supplementary angles
(3) Vertically opposite angles
(4) None of these

20. Convert 100°C to Fahrenheit.

- (1) 212°F (2) 312°F
(3) 412°F (4) None of these

21. Which instrument is used to draw circles?

- (1) Compass (2) Protractor
(3) Divider (4) None of these

22. Which set of numbers is the prime factorisation of 56 ?

- (1) $\{2 \times 2 \times 2\}$ (2) $\{2 \times 2 \times 3\}$
(3) $\{2 \times 2 \times 2 \times 7\}$ (4) None of these

23. 24% of 98 ?

- (1) 23.52 (2) 25.62
(3) 17 (4) None of these

24. Represent thrice a number, increased by nineteen algebraically

- (1) $3x + 19$ (2) $2x + 19$
(3) $\frac{x}{3} + 19$ (4) None of these

25. In the word SCIENCE, the ratio of number of consonants to the number of vowels is

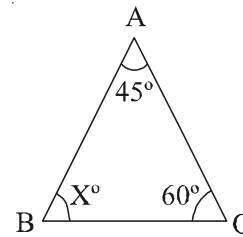
- (1) 3 : 4 (2) 3 : 2
(3) 4 : 3 (4) None of these

26. Which one is correct ?

- (1) $-89 < 0 < 3 < -48$ (2) $-48 < 0 < 3 < -89$
(3) $-89 < -48 < 0 < 3$ (4) None of these

27. Find the LCM of 36, 60, 48
- (1) 720 (2) 900
(3) 730 (4) None of these
28. $4^3 + 4^3 + 4^3 + 4^3$ is equal to
- (1) 4^4 (2) 4^6
(3) 4^7 (4) None of these
29. The sum of the angles of a quadrilateral is
- (1) 270° (2) 360°
(3) 180° (4) None of these
30. What is the value of the expression
- $$\left[\left(\frac{7}{8} - \frac{2}{5} \right) - \left(\frac{1}{8} + \frac{1}{4} \right) \right]$$
- (1) $\frac{1}{10}$ (2) $\frac{1}{9}$
(3) $\frac{1}{11}$ (4) None of these
31. Face value of "2" in 21004770 is
- (1) 2 (2) 20 lakhs
(3) 2 hundred (4) None of these
32. Fill the missing term $32 \div (-8) = \square$
- (1) 9 (2) 4
(3) -4 (4) None of these
33. Value of x in $\frac{x}{8} + \frac{1}{4} = 8$
- (1) 63 (2) 62
(3) 64 (4) None of these
34. A bag contains 4 blue, 3 red, 4 green and 3 pink balls. The number of pink balls is what fraction of the total number of balls?
- (1) $\frac{3}{14}$ (2) $\frac{2}{14}$
(3) $\frac{3}{3}$ (4) None of these
35. $\frac{1}{1 + \frac{1}{2 + \frac{1}{3}}} =$
- (1) $\frac{6}{5}$ (2) $\frac{7}{10}$
(3) $\frac{9}{7}$ (4) None of these

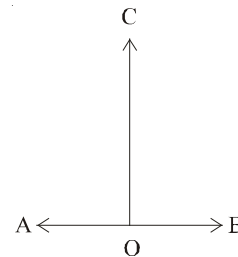
36. Select the pair in which the numbers are similarly related as in the given pair **12 : 144**
- (1) 22 : 464 (2) 15 : 135
(3) 20 : 400 (4) None of these
37. $\frac{1}{2}$ a kg of cheese costs ₹ 130.00. How much would 3 kg of cheese cost?
- (1) ₹ 720 (2) ₹ 780
(3) ₹ 740 (4) None of these
38. $\left(6.25 \times \frac{2}{5} \right) \times 3$
- (1) $\frac{5}{2}$ (2) $\frac{15}{2}$
(3) $\frac{2}{15}$ (4) None of these
39. In the figure, measure of $\angle X$ is



- (1) 60° (2) 70°
(3) 75° (4) None of these
40. Write the extremes of $126 : 168 :: 162 : 216$
- (1) 126, 216 (2) 168, 162
(3) 126, 168 (4) None of these

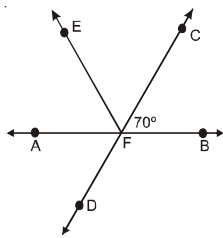
EtG INTERACTIVE SECTION

(41 – 43) From the given figure, complete the sentences.



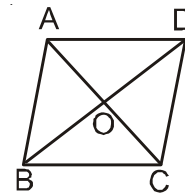
41. \overrightarrow{OC} is a _____
- (1) Ray (2) Angle
(3) Line segment (4) None of these

42. $\angle AOC + \angle COB =$ _____
- (1) 90° (2) 360°
 (3) 180° (4) None of these
43. $180 - \angle AOC = \angle$ _____
- (1) $\angle AOC$ (2) $\angle COB$
 (3) $\angle AOB$ (4) None of these
44. A textile shop parking lot has space for 1000 cars. $\frac{2}{5}$ of the spaces are for compact cars. On Tuesday there were 200 compact cars and some standard size cars in the parking lot. The parking lot was $\frac{3}{4}$ full. How many standard size cars were in the parking lot?
- (1) 250 (2) 550
 (3) 750 (4) None of these
45. In the given figure, \overline{CD} intersects \overline{AB} at F, $\angle CFB = 70^\circ$, and $\angle EFA \cong \angle AFD$. What is $\angle EFC$?



- (1) 40° (2) 50°
 (3) 70° (4) None of these
46. Tina had 20 m 5 cm long cloth. She cuts 4 m 50 cm length of cloth from this for making a curtain. What is the length of cloth left with her?
- (1) 15.55 m (2) 20 m
 (3) 19.33 m (4) None of these

47. Anju borrowed some money from Tarun at the rate of 8% p.a. If Anju paid back a total of ₹16,500 at the end of 4 years, then what amount did Tarun lend to Anju?
- (1) ₹12,300 (2) ₹12,500
 (3) ₹12,600 (4) None of these
48. Which set of numbers lists all the common multiples of 5 and 7 that are less than 100?
- (1) { 25, 30, 75 } (2) { 35, 70 }
 (3) { 35, 45, 70 } (4) None of these
49. The given figure shows a quadrilateral ABCD. Its diagonals are the perpendicular bisectors of each other.



- If $AC = 10$ cm and $DB = 12$ cm, then what is the value of $BO + OC$?
- (1) 11 cm (2) 8 cm
 (3) 10 cm (4) None of these
50. If $\frac{5}{7} = \frac{x}{35} = \frac{y}{49}$, then the values of x and y are respectively
- (1) 15, 20 (2) 20, 25
 (3) 25, 35 (4) None of these



END OF THE EXAM