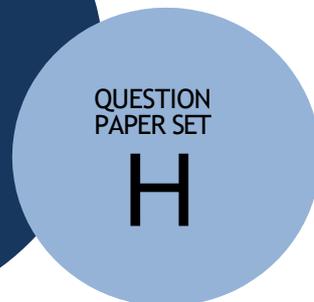


SCO INTERNATIONAL MATH  
OLYMPIAD 2023-24



DO NOT OPEN THIS BOOKLET UNTIL ASKED TO DO SO

Guidelines for the Candidate

1. Before the exam begins, you will have an additional 20 minutes to complete the OMR Sheet with personal information.
2. On the OMR Sheet, clearly write your name, **school code, class, roll number, and mobile number..**
3. Four sections make up the question paper:

**General Math ,Reason/Assertion ,Case Study and Achievers Section** (5 Questions).

**Total Questions - 50**

4. Every inquiry must be answered. There are no failing grades. Calculator use is not allowed.
5. There is just ONE right response. Select ONE response choice only.
6. Use only an HB pencil or a blue or black ballpoint pen to indicate your choice of responses by darkening the corresponding circles on the OMR Sheet. E.g.

**Q.1: What is the capital of India?**

- A. Kolkata B. Mumbai C. Delhi D. Chennai

You must shade the circle next to option C on the OMR Sheet since that is the right response.



7. At the conclusion of the test, hand over the OMR Sheet to the Invigilator.
8. Before attempting the paper, kindly provide your personal information in the box provided on this page. .



Name:.....

Registration ID:..... Contact No.:.....

1.	<p>What will come in place of ?  <math>4320879 = 4000000 + 300000 + 20000 + ? + 70 + 9</math></p> <p>A) 800                      B) 80                      C) 8000                      D) 8</p>
2.	<p>Which of these is the lowest common multiple of 5 and 12?</p> <p>A) 40                      B) 36                      C) 144                      D) 60</p>
3.	<p>Ruhi has a box full of 40 blue marbles while Aryan has a box filled with 72 yellow marbles. Both of them want to divide these marbles into small packets such that each packet contains an equal number of marbles (either blue or yellow can also be a possibility). If there are no remainders, then what is the largest number of marbles present in each packet?</p> <p>A) 4                      B) 12                      C) 8                      D) 10</p>
4.	<p>Assertion: 12, 60, 54, 144 are all divisible by 6  Reason: If a number is divisible by 2 as well as 3, it is also divisible by 6</p> <p>A) Only Assertion is true  B) Only Reason is true  C) Both Assertion and Reason are true and Reason is the correct explanation of the assertion  D) Both Assertion and Reason are true but Reason is not the correct explanation of the Assertion</p>
5.	<p>Vinay has created a 4-digit number lock in his mobile phone. He remembers that the first digit is 5 times the third digit. The second digit is 4 less than the last digit. The sum of the last and third digit is 9. What is the number lock?</p> <p>A) 5218                      B) 5418                      C) 5412                      D) 5410</p>
6.	<p>If <math>24.002 - 22 = 2.002</math>, then what will be the value of <math>34.04 + 12.03 - 24.002 - 22 - 2.002</math>?</p> <p>A) 46.06                      B) 56.07                      C) 13.04                      D) 310.09</p>
7.	<p>What will be the difference of (5 hundreds 2 tens 4 tenths 6 hundredths) and (6 tens 2 tenths 3 hundredths)?</p> <p>A) 450.44                      B) 500.34                      C) 420.63                      D) 460.23</p>
8.	<p>The sum of 5.6023 and 3.421 is how much less than the difference of 34.02 and 12.04?</p> <p>A) 12.9567                      B) 10.45                      C) 11.23                      D) 13.4567</p>

9.	<p>Which of these gives the greatest value?</p> <p>A) <math>12.43 + 3.25 - 10.02</math>            B) <math>2.49 + 1.34 + 5.67</math>            C) <math>10 - 2.5 - 4.12</math>            D) <math>4.21 + 3.45 - 1.34</math></p>
10.	<p>What will the simplified value of:            (3 hundreds 2 tens 4 ones 3 tenths 5 hundredths) + (20 tens 2 tenths) - (1 hundred 4 tens 3 tenths)</p> <p>A) 384.25      B) 380      C) 240.45      D) 104.25</p>
11.	<p>Riya went for lunch with 3 other friends of hers.</p>  <p>After generation of bills along with taxes the amount calculated was Rs.345.67. She has to divide this amount equally among them. What will be the amount paid by each of them? (Round it off to a whole number)</p> <p>A) Rs.40      B) Rs.86      C) Rs.32      D) Rs.67</p>
12.	<p>What will be the product of (5 tens 2 tenths - 3 tens 4 tenths) and (2 tens 1 tenths + 1 tens)?</p> <p>A) 595.98      B) 505.65      C) 400.23      D) 600.25</p>
13.	<p>A pen costs Rs.4.50 and a pencil costs Rs.3.75. Harish bought 5 pens and 3 pencils. If he gave Rs.50 to the shopkeeper.</p>  <p>How much will he get back in return? (Round it off to whole number)</p> <p>A) Rs.18      B) Rs.15      C) Rs.16      D) Rs.22</p>
14.	<p>Kartik ordered Pizza worth Rs.198.99 and Coke for Rs.125.45 online. The total amount was distributed between Kartik and his sister. How much did each pay? (Round it off to the nearest 10)</p> <p>A) Rs.160      B) Rs.180      C) Rs.100      D) Rs.200</p>

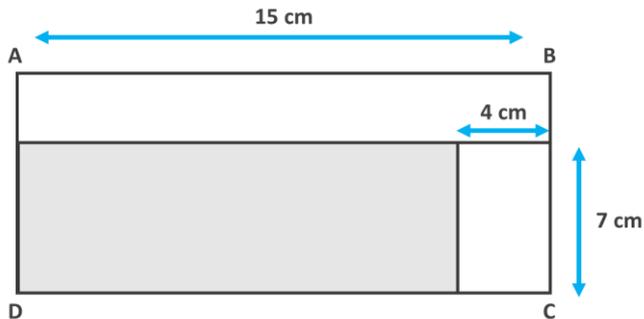
15. A packet of seeds costs Rs.450.45 and the other materials for gardening costs Rs.1250.35.



Along with that tax of Rs.56.25 is added. 3 bills of the same order were made. What will be the total amount of 3 bills?

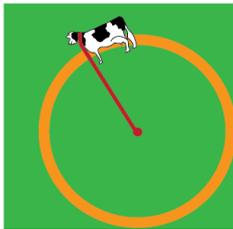
- A) Rs.5055.75    B) Rs.5271.15    C) 5420.25    D) 4500.23

16. What will be the area of the shaded region?



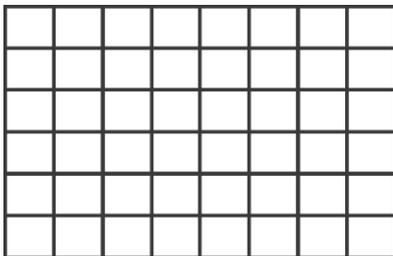
- A) 45 sq.cm    B) 77 sq.cm    C) 45 sq.cm    D) 25 sq.cm

17. A cow is grazing in a circular field of diameter 14m. If the cow grazes only along the boundary, what distance will he need to cover to graze the grass?



- A) 22m    B) 46m    C) 44m    D) 40m

18. What will be the area of the rectangle if each square has an area of 2 sq.cm?



- A) 98 sq.cm    B) 44 sq.cm    C) 96 sq.cm    D) 56 sq.cm

19.	<p>A triangle has 2 sides of length 14 cm and 20cm. If the perimeter is 48cm, what will be the length of the third side?</p> <p>A) 10cm      B) 11cm      C) 12cm      D) 13cm</p>
20.	<p>The length of a rectangle is <math>(2x + 1)</math> and the breadth is <math>(4x + 3)</math>. What will be the perimeter of the rectangle?</p> <p>A) <math>(12x + 8)</math>      B) <math>(13x + 5)</math>      C) <math>(14x + 25)</math>      D) <math>(24x + 4)</math></p>
21.	<p>Rahul bought an oven for Rs. 15000 and sold it to his friend for Rs. 12000. What is the profit/loss made by him?</p> <p>A) 20% profit      B) 20% loss      C) 25% profit      D) 25% loss</p>
22.	<p>A merchant sells an item for Rs. 200 and makes a profit of Rs. 45. What is the cost price of the item?</p> <p>A) Rs. 150      B) Rs. 155      C) Rs. 125      D) Rs. 245</p>
23.	<p>Khushi bought a bag for Rs. 250 and sold it at Rs. 300.</p>  <p>Which of the following statements are true about the incident?</p> <p>a) She made a profit of Rs. 50  b) Her loss % is 20%  c) Rs. 250 is the cost price of the bag</p> <p>A) Only (a) is correct  B) All of these are correct  C) Both (a) and (c) are correct  D) Only (c) is correct</p>
24.	<p>Preeti bought 4 ice creams for Rs. 240.</p>  <p>She sells only 1 ice cream for Rs. 50. What is the profit/loss made by her?</p> <p>A) Rs. 10 profit  B) Rs. 10 loss</p>

- C) Rs. 20 profit
- D) Rs. 25 loss

25. Resham bought 5kg mangoes for Rs. 345 and sells them for Rs.200 per kg.



What is the profit or loss incurred by her?

- A) Rs.120
- B) Rs. 135
- C) Rs.142
- D) Rs. 131

26. A survey was conducted in the class and students had voted for their favorite colors. Which color is most liked by the students?

Colours	No. of children
Red	
Blue	
Green	
Orange	
Yellow	
 = 12 students	

- A) Green
- B) Red
- C) Yellow
- D) Blue

27. Total marks obtained by Rahul in 5 weekly tests is a multiple of 8 and greater than 57 but less than 65. If the average marks obtained in the first 4 tests is 12. Then what are the marks obtained in the fifth test?

- A) 14
- B) 16
- C) 12
- D) 10

28. The table shows the transports taken by different people each day.

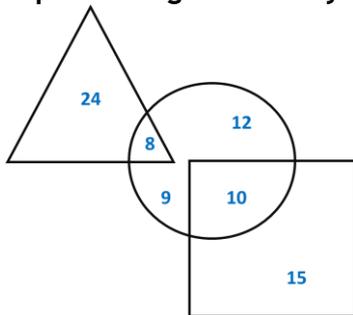
Transport taken	Male	Female	Children
Bus	200	130	25
Taxi	120	200	10
Scooter	400	50	0
Auto rickshaw	300	350	120

What is the difference between (Male + Female) who took a taxi and the number of children who took auto-rickshaw?

- A) 300
- B) 200
- C) 100
- D) 50

29.	In an office department there are 25 people of the following ages: 21, 23, 21, 32, 45, 22, 40, 45, 45, 32, 33, 35, 37, 38, 21, 20, 45, 45, 45, 40, 46, 36, 35, 45, 46 Which age is common for the people in the department?  A) 40    B) 21    C) 45    D) 32
30.	In a class test of 30 marks, 20 students got marks as following: 24, 22, 20, 10, 18, 12, 16, 25, 28, 29, 13, 15, 18, 22, 24, 16, 19, 11, 23, 26 How many students got marks above 25?  A) Two    B) Three    C) Zero    D) One
31.	Rakesh lends Rs.500 to Shruti for 10 months at the rate of 2% per month simple interest. How much interest will he receive at the end of 10th month?  A) Rs.100    B) Rs.200    C) Rs.300    D) Rs.140
32.	You gave Rs.2500 to your friend at the rate of 10% per annum. What will be the amount received if he pays you back after 3 years?  A) Rs.3000    B) Rs.3500    C) Rs.3250    D) Rs.3400
33.	Sheetal has taken a loan of Rs. 50,000. The rate of interest calculated is 9.5% per annum. How much interest will she pay if she returns the amount in 2 years?  A) Rs.9000    B) Rs.9500    C) Rs.8500    D) Rs.8250
34.	Rohan has taken some amount for 2 years and he pays Rs.500 as Simple Interest. The rate of interest calculated on the amount was 5% per annum. How much money has he taken?  A) Rs.5000    B) Rs.5500    C) Rs.4500    D) Rs.4000
35.	Keerti wants to pursue higher education. She is running out of Rs.2,00,000. So, she decides to take a loan from the bank. The bank charges her an interest rate of 10% per annum. She has promised to return back the amount after 5 years. How much amount including interest will she have to return at the end of 5 years?  A) 2,25,000    B) 2,00,000    C) 2,25,500    D) 2,50,000
36.	Few letters are assigned with certain numbers. R I A B N O W 6 9 1 2 7 4 5 What will be the correct order of numbers if these letters are arranged in such a way that it forms a meaningful word?  A) 6197254    B) 6197245    C) 1697245    D) 6179245

37. The image below represents the swimmers in a class with each 2D shape representing an identity.



Triangle = Girls

Square = Boys

Circle = Swimmers

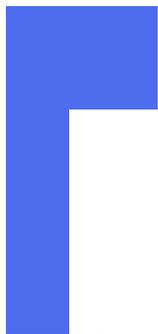
How many girls and boys are swimmers in the class?

- A) 12      B) 19      C) 18      D) 20

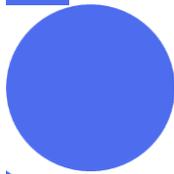
38. What will be the side view of this figure?



A)



B)

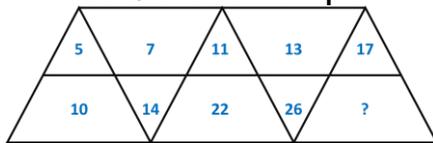


C)

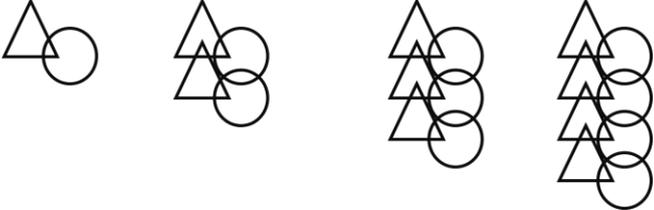


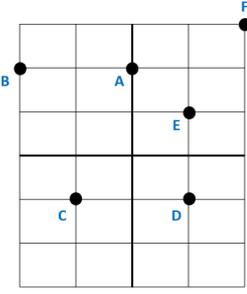
D)

39. Assertion: The term in place of ? will be 34



Reason: The terms in the downside of the triangle is a multiple of 2 of the terms

	<p>in the upper part of the triangle.</p> <p>A) Only Assertion is true  B) Only Reason is true  C) Both Assertion and Reason are true and Reason is the correct explanation of the assertion  D) Both Assertion and Reason are true but Reason is not the correct explanation of the Assertion</p>
40.	<p><b>Assertion:</b> The number in place of ? will be 80  144, 132, 120, 108, 96, ?, 72, 60  <b>Reason:</b> The numbers are subtracted from 16</p> <p>A) Only Assertion is true  B) Only Reason is true  C) Both Assertion and Reason are true and Reason is the correct explanation of the assertion  D) None of them are true</p>
41.	<p><b>How many triangles will be there in the next pattern in the series?</b></p>  <p>A) 4      B) 3      C) 5      D) 0</p>
42.	<p><b>Which number should come next?</b>  45, 92, 188, 382, ?</p> <p>A) 772      B) 778      C) 800      D) 950</p>
43.	<p><b>Assertion:</b> Kriti has a box 4 times heavier than the box of Shruti. While Shruti's box is 35 kg heavier than that of Rohit.  <b>If Rohit's box weighs 30kg, then the weight of Kriti's box = 260 kg</b>  <b>Reason:</b> Shruti's box weighs = 65 kg</p> <p>A. Only Assertion is true  B. Only Reason is true  C. Both Assertion and Reason are true and Reason is the correct explanation of the assertion  D. None of them are true</p>

44.	<p><b>RIBBON is coded as NOBBIR</b>  <b>What will LAPTOP be coded as?</b></p> <p>A) POTPAL  B) TOPPAL  C) LOPTAP  D) TAPPOL</p>
45.	<p><b>Assertion: Point B is to the West of A.</b></p>  <p><b>Reason: The point exactly on the Left of A will be towards the West of A.</b></p> <p>A. Only Assertion is true  B. Only Reason is true  C. Both Assertion and Reason are true and Reason is the correct explanation of the assertion  D. None of them are true</p>
46.	<p><b>Assertion: The Simple Interest on sum of Rs. 100 for 1 year at 5% per annum will be Rs. 5.</b>  <b>Reason: The denominator of <math>(100 \times 5 \times 1)</math> is multiplied by 100</b></p> <p>A. Only Assertion is true  B. Only Reason is true  C. Both Assertion and Reason are true and Reason is the correct explanation of the assertion  D. None of them are true</p>
47.	<p><b>Assertion: The perimeter of a triangle with lengths <math>4y</math>, <math>7y + 2</math> and <math>6y - 1</math> will be <math>17y + 1</math></b>  <b>Reason: The perimeter of a triangle is the sum of the three sides</b></p> <p>A. Only Assertion is true  B. Only Reason is true  C. Both Assertion and Reason are true and Reason is the correct explanation of the assertion  D. None of them are true</p>
48.	<p><b>Assertion: The selling price of an article is Rs.500 and the cost price is Rs. 350. Then profit happens.</b>  <b>Reason: If <math>SP &gt; CP</math>, then loss occurs.</b></p>

	<p>A. Only Assertion is true          B. Only Reason is true          C. Both Assertion and Reason are true and Reason is the correct explanation of the assertion          D. None of them are true</p>
49.	<p><b>Assertion: A class has students of height (in cm) 150, 155, 150, 157, 150, 156, 157, 150, 153, 152</b>  <b>The most common height is 152 cm.</b>  <b>Reason: The data which occurs for the most number of times is the most common data and known as frequency of the experiment.</b></p> <p>A. Only Assertion is true          B. Only Reason is true          C. Both Assertion and Reason are true and Reason is the correct explanation of the assertion          D. None of them are true</p>
50.	<p><b>Assertion: 504 is divisible by 6</b>  <b>Reason: 504 is divisible by 2 as well as 3</b></p> <p>A. Only Assertion is true          B. Only Reason is true          C. Both Assertion and Reason are true and Reason is the correct explanation of the assertion          D. None of them are true</p>

### ANSWER KEY

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



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