S I M S®

(SCHOLARS INTEGRAL MATHS & SCIENCE OLYMPIADS)

CLASS VI

BIGGEST NATIONAL LEVEL OLYMPIAD : 2016-17

MAX. MARKS : 100 | **SIMO QUESTION PAPER** | **TIME: 60 MIN.**

NAME OF THE STUDENT : .....

HALL TICKET NUMBER : .....

NAME OF THE SCHOOL : .....

INSTRUCTIONS:

- **This question paper contains 41 questions.**
- **First 32 questions (1 to 32) are single correct answer type. Each question carries 2 marks.**
- **Next 9 questions (33 to 41) are more than one correct answer type. Each question carries 4 marks.**
- **Marks are non deducted for wrong answers. (No negative marks).**
- **You have not allowed to use a calculator or any other electronic devices in the examination hall.**
- **Read the instructions given in the answer sheet(OMR sheet) before answering the questions.**
- **The answer sheet should be returned to the invigilator before leaving the examination hall (You can retain the question paper with you)**
- **Results will be available at : www.simsolympiads.org**

SINGLE CORRECT ANSWER TYPE: **32 × 2 = 64**

1. The value of $-x+[x+\{-x-(x+x)\}]$ is

   1) $-x$ 2) $-2x$ 3) $-3x$ 4) None of these

2. The chairs in a class room arranged in straight rows. Peter is in the fourth row from the front and fifth row from the back. He is third from the left end of a row and sixth from the right. How many chairs are there in the classroom ?

   1) 54 2) 64 3) 81 4) 78

3. The sum of two prime numbers is 39. What is the product of these numbers?

   1) 15 2) 72 3) 74 4) 63

4. A 6 digit number begins with the digit 8. The number is divisible by 9. All the digits of the number of different. What is the smallest possible value of this number?

   1) 810234 2) 801234 3) 812340 4) 897651

5. Find the value of $a+b+c$, if 373a is divisible by 9, 473b is divisible by 11 and 373c is divisible by 6.

   1) 7 2) 6 3) 0 4) 3

6. Simplify and choose the correct option. $7x-[3y-\{4x-(5z-3y)+6z-3(2x+y-3z)\}]$

1) $7x-4y+11z$ 2) $8x+3y-10z$

3) $5x-3y+10z$ 4) $9x-3y-10z$

7. For a new year party, a caterer provided three 1 kg of desserts. At the end of the party, there were3/5 kg of chocolate pudding, 4/7 kg of caramel pudding and 5 / 8 kg of fruit pudding left. What fraction of the original three kg was left after the party ?

1) $1\frac{123}{280}$ 2) $1\frac{223}{280}$ 3) $1\frac{283}{270}$ 4) $1\frac{393}{290}$

8. If $\frac{4}{15}x=\frac{2}{5}y$, then the value of $\frac{x+y}{x-y}$ is

1) 3/5 2) 5 3) 2/5 4) 3

9. If ₹1190 be divided among A,B,C in such a way that A gets 2/3 of what B gets and B gets 1/4 of what C gets, then their shares are respectively

1) ₹210, ₹140, ₹960 2) ₹840, ₹140, ₹260

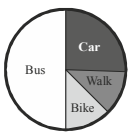
3) ₹140, ₹210, ₹840 4) None of these

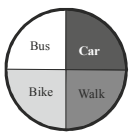
10. If $x=\frac{2}{3}+\frac{3}{4}$ and $y=\frac{3}{4}+\frac{5}{6}$, then the value of $\frac{1}{x}\div\frac{1}{y}$ is

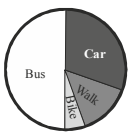
1) 11/38 2) 17/38 3) 22 / 17 4) 19/17

11. Students were asked how they travelled to school each day. The table below shows these results.Which graphic correctly displays these data ?

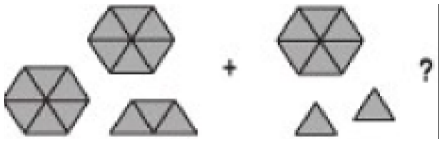
Travel to School	
Type of Travel	**Percentage**
Bus	50%
Car	30%
Walk	15%
Bike	5%

1) 

2) 

3) 

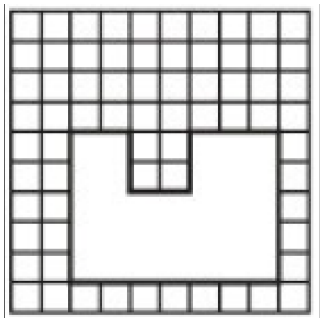
4) None of these

12. If  represents 1, then what is 

1) $3\frac{2}{6}$ 2) $3\frac{5}{6}$ 3) $4\frac{2}{6}$ 4) $4\frac{5}{6}$

13. Study the given figure.

What is the area of the outlined figure ? □ = 1 Square Unit



1) 31 sq.units 2) 37 sq.units 3) 41 sq.units 4) 25 sq.units

14. The table below shows the number of books read by five children in one month.

Name	Number of books
Archana	?
Sulekha	14
Ajoy	16
Madhav	17
Sonia	13

If Archana read 3 books less than $\frac{1}{5}$ of the total number of books read by the other four children, then Archana read _____ books in a month.

1) 10 2) 9 3) 8 4) 12

15. What is the value of expression $xyz - (x + y + z)$, if $x = 5$, $y = -7$ and $z = 2$?

1) 0 2) –70 3) 72 4) –68

16. The expression $\frac{\frac{a}{b}-1}{\frac{a}{b}+1}$ is equivalent to

1) $\frac{a+b}{a-b}$ 2) $\frac{a-b}{a+b}$ 3) $\frac{1}{a-b}$ 4) $\frac{1}{a+b}$

17. The sum of two numbers is 432. If $\frac{5}{7}$ of the first number is $\frac{1}{4}$ of the second number, then the product of the two numbers is

1) 20540 2) 18430 3) 27340 4) 35840

18. Simplify and choose the correct option of $20 \div 5 \times 2 - \{(6+2) \times 7\}$.

1) 56 2) –48 3) –54 4) –12

19. If $\angle A$ is complement of $\angle B$ and $\angle B$ is complement of $\angle A$, then they both are

1) obtuse angles 2) acute angles 3) right angles 4) Can't say

20. The ratio of A to B is 2:3. The ratio of B to C is 6:5. The sum of three numbers is 180. What is the value of A ?

1) 48 2) 72 3) 60 4) 120

21. If $4a + 3c = 9$, then what is the value of $3 + 12a + 9c$?

1) 30 2) 12 3) 27 4) 18

22. Nine exceeds two-third of a number by 10, is represented by

1) 2 2) –3/2 3) – 2 4) 3/2

23. If $a * b = \frac{a \times b}{a \div b}$, then what is the value of 21 * 3?

1) 21 / 3 2) 42 / 7 3) 9 / 1 4) 7 / 3

24. The HCF of 0.1, 0.01 and 0.001 is

1) 0.1 2) 0.01 3) 0.001 4) 10

25. The sum of two prime numbers is 39. What is the product of these numbers ?

1) 15 2) 72 3) 74 4) 63

26. A 6 digit number begins with the digit 8. The number is divisible by 9. All the digits of the number of different. What is the smallest possible value of this number?

1) 810234 2) 801234 3) 812340 4) None of the above

27. Sum of two integers is –35. If one of them is 15, then other one is

1) +20 2) –20 3) –50 4) +50

28. If x : y = 4 : 5, then (4x+5y) : (5x–2y) is equal to

1) $\frac{41}{10}$ 2) $\frac{4}{5}$ 3) $\frac{16}{25}$ 4) None of the above

29. $20 - \{(4 + \overline{7 - 8}) - 14 \div 2\}$ is equal to

1) 22 2) 26 3) 24 4) 28

30. If Subhash's income and expenditure are in the ratio 9 : 5, then the central angle of a sector which represents savings is

1) 160° 2) 200° 3) 140° 4) 360°

31. $\frac{17\frac{2}{3} + 21\frac{1}{2} - 9\frac{1}{3}}{79\frac{1}{2} - 49\frac{2}{3}} =$

1) $4\frac{2}{3}$ 2) $17\frac{2}{6}$ 3) 1 4) None of these

32. Shilpa has ₹ 4102 with her and spends 34 % of it on groceries. How much money is left with her ?

1) ₹ 2517.32 2) ₹ 2707.32 3) ₹ 2807.32 4) ₹ 2927.32

MORE THAN ONE CORRECT ANSWER TYPE: **9 × 4 = 36**

33. Tency has holidays on every second and fourth Saturday of a month.

December 2012

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

On which dates she has holidays in January 2013?

1) 15^{th} 2) 26^{th} 3) 22^{nd} 4) 12^{th}

34. What are the values of a and b such that 34a, 24b is the least number to be divisible by 15 ?

1) b = 5 2) b = 0 3) a = 2 4) a = 1

35. If ₹1190 be divided among A, B, C in such a way that A gets 2/3 of what B gets and B gets 1/4 of what C gets, then their shares are

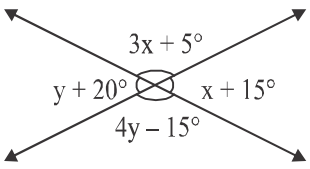
1) A = ₹ 210 2) C = ₹840, 3) A = ₹140 4) B = ₹210

36. In the term $\frac{25}{3}a^2bc^3$, which of the following is /are correct?

1) Coefficient of a^2 is $\frac{25}{3}bc^2$ 2) Numerical coefficient is $\frac{25}{3}$

3) Coefficient of c^3 is $\frac{25}{3}a^2b$ 4) Coefficient of a^2bc^3 is $\frac{25}{3}$

37. What are the values of x and y in the given figure ?



1) y = 75° 2) x = 20° 3) x = 40° 4) y = 35°

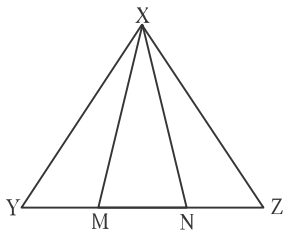
38. Consider the following pattern.

$1+\frac{1}{2}=\frac{1+2}{2}=\frac{3}{2}$ $\frac{1}{2}+\frac{1}{3}=\frac{2+3}{2\times3}=\frac{5}{6}$ $\frac{1}{3}+\frac{1}{4}=\frac{3+4}{3\times4}=\frac{7}{12}$ $\frac{1}{p}+\frac{1}{q}=\frac{p+q}{p\times q}=\frac{23}{r}$

What are the values of p, q and r ?

1) r = 132 2) p+q–r = 109 3) p = 11 4) q = 12

39. In the given figure, $\angle YXM = \angle MXN = \angle NXZ$.



Then, which of the following statements is true ?

1) XM is bisector of $\angle YXN$

2) XN is bisector of $\angle MXZ$

3) XM and XN are trisector of $\angle YXZ$

4) XN is bisector of $\angle YXZ$

40. What are the three common multiples of 3, 4 and 9 ?

1) 24 2) 36 3) 108 4) 72

41. If $\frac{4}{15}x = \frac{2}{5}y$, then the value of

1) $\frac{x}{y} = \frac{3}{2}$ 2) $\frac{x^2 - y^2}{x + y} = 1$ 3) $\frac{x - y}{x + y} = \frac{1}{5}$ 4) $\frac{x + y}{y - x} = 5$

❖ ❖ ❖ *All The Best* ❖ ❖ ❖