# S I M S ®

### (SCHOLARS INTEGRAL MATHS & SCIENCE OLYMPIADS)

**CLASS VII**

## BIGGEST NATIONAL LEVEL OLYMPIAD ( STAGE - II) : 2018-19

## SIMO QUESTION PAPER

## MAX. MARKS : 100                    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) questions are one or more than one correct answer type. Each question carries 4 marks.**

✦ **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.com**

**Single Correct Answer Type:**                    **32 × 2 = 64**

1.  The product of two integers is 4 less than 49. If one of the integers is –9 the other integer is
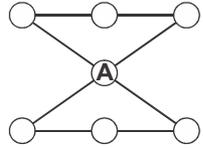
    1) 43          2) 40          3) –44          4) –5

2.  Simplify using the BODMAS rule,

    $\overline{81 \div 9 \times 3} - (6 \times 5 + 3 \times 6) - \{2 \times (-1) + (-1) \times (-3)\} =$

    1) –22          2) 32          3) –(–22)          4) 16

3.  Use prime numbers 5, 7, 11, 13, 17, 19, 23 and arrange them in 7 circles to get sum as 41 in each line. The value of A is
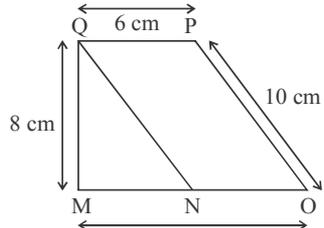
    1) 17          2) 23          3) 13          4) 5

4.  If    $2 = x + \cfrac{1}{1 + \cfrac{1}{3 + \cfrac{1}{4}}}$ ,    then the value of x is _____.

    1) $-\dfrac{17}{21}$          2) $\dfrac{17}{21}$          3) $-\dfrac{21}{17}$          4) $\dfrac{21}{17}$

5.  Area of parallelogram QPON is

    1) 48 cm²          2) 36 cm²

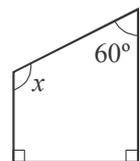    3) 24 cm²          4) 26 cm²

6.  Given X is 50% larger than Z and Y is 25% larger than Z. Then X is what percent larger than Y ?
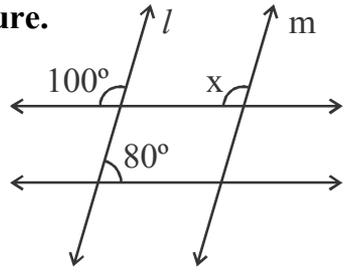
    1) 20%          2) 25%          3) 75%          4) 50%

7.  The figure represents the top view of John's model. What is the value of x ?

    1) 60º          2) 120º

    3) 90º          4) 30º

8. **Find the value of the x in the figure.**

   1) 180º

   2) 20º

   3) 80º

   4) 100º

9. **An angle is less than 90º. Is its supplementary angle greater than 90º or equal to 90º or less than 90º ?**

   1) = 90º        2) < 90º        3) > 90º        4) None

10. **In the given figure, the measure of (x+ y+z) is**

    1) 105º

    2) 195º

    3) 180º

    4) 210º
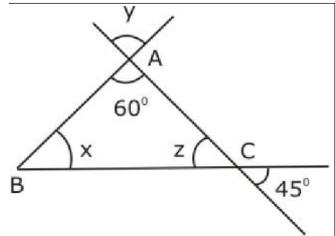
11. **A 15 m long ladder reached a window 12 m high from the ground on placing it against a wall. Find the distance of the foot of the ladder from the wall.**
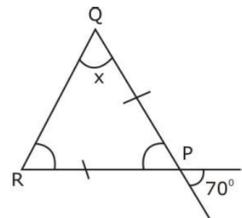
    1) 18 m        2) 9 m        3) 81 m        4) 14 m

12. **If** $\dfrac{3p+2}{5} - \dfrac{4p-3}{7} + \dfrac{p-1}{35} = 4,$ **then the value of p is**
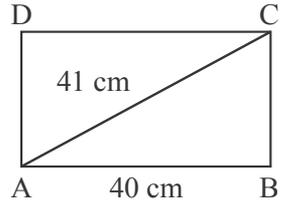
    1) 65        2) 63        3) 56        4) 3

13. **In the given figure, the measure of x is _____.**

    1) 120º

    2) 60º

    3) 70º

    4) 20º

14. **Find the perimeter of the rectangle whose length is 40 cm and one of the diagonal is 41 cm.**
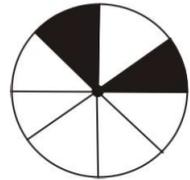
    

    1) 49 cm          2) 81 cm

    3) 160 cm        4) 98 cm

15. **The exterior angle of a triangle is 120º and one of its interior opposite angles is 70º. Find the measure of its other interior opposite angle ?**

    1) 90º          2) 50º          3) 60º          4) 100º

16. **What percentage of the figure is shaded ?**

    

    1) 25%          2) 50%

    3) 75%          4) 33%

17. **Express in standard form of 15260000.**

    1) $1.526 \times 10^7$                    2) $1.52 \times 10^5$

    3) $15.260 \times 10^6$                   4) $152.6 \times 10^7$

18. **A person gains ₹ 2 on product x and loses ₹ 3 on product y. If he sells 8 items of x and 5 items of y his profit or loss is**
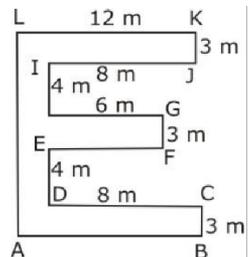
    1) Profit of ₹ 1                    2) Loss of ₹ 1

    3) –2                               4) neither profit nor loss

19. **After 12 years I shall be 3 times as old as I was 4 years ago. Find my present age ?**

    1) 12          2) 13          3) 14          4) 15

20. **Find the perimeter of the given figure.**

    

    1) 83 m

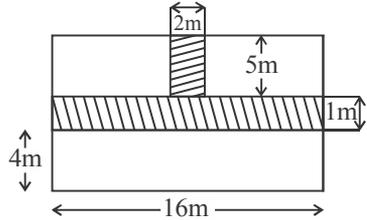    2) 84 m

    3) 86 m

    4) 122 m

21. **An insect crawls up 5 cm every second on a 60 cm vertical rod and then falls down 2cm over the next second. How many seconds will it take to climb the rod ?**

    1) 39            2) 40            3) 20            4) 30

22. **Find the area of the shaded portion of the figure.**

    1) 31 sq.cm

    2) 78 sq.cm

    3) 238 sq.cm

    4) 160 sq.cm

    

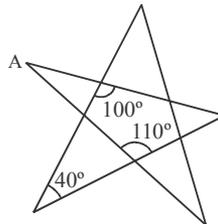23. **Two-third of a number is 3 more than one-third of the number. Find the number.**

    1) 18            2) 6            3) 9            4) 12

24. **In a class of 50 students the number of boys is $\dfrac{2}{3}$ of the number of girls. Find the boys and girls ?**

    1) 20, 30     2) 30, 20     3) 25, 25     4) 15, 35

25. **From the figure, the measure of angle A is _____.**

    1) 30º

    2) 70º

    3) 80º

    4) 28º

    

26. **Dileep has 3 more marbles than Rohit. If both have 95 marbles then Dileep has_____ number of marbles.**

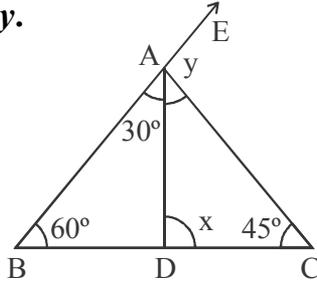    1) 45            2) 46            3) 47            4) 45

27. **Measure of two complementary angles are in the ratio 2 : 3. Find the measure of the bigger angle.**
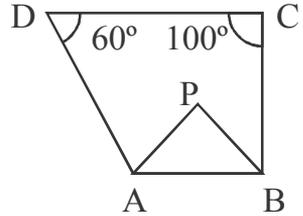
    1) 64º            2) 36º            3) 70º            4) 54º

**28.** **In the figure, find $x$ and $y$.**

1) x = 85°, y = 115°

2) x = 90°, y = 115°

3) x = 90°, y = 105°

4) x = 75°, y = 105°

**29.** **In the adjacent figure, the bisectors of ∠A and ∠B meet in a point P. If ∠C = 100° and ∠D = 60°, find the measure of ∠APB.**

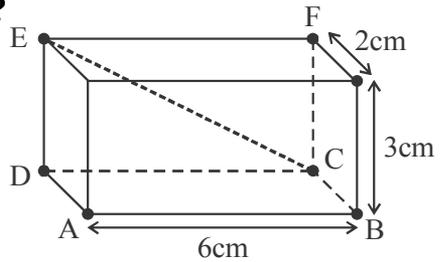1) 80⁰          2) 100⁰

3) 90⁰          4) 180⁰

**30.** **If ₹782 is divided into three parts, proportional to $\dfrac{1}{2} : \dfrac{2}{3} : \dfrac{3}{4}$. find the first part.**
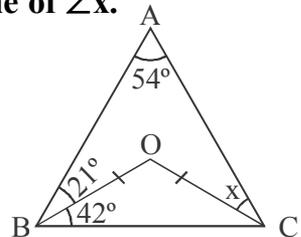
1) ₹ 190       2) ₹ 204       3) ₹ 220       4) ₹ 230

**31.** **What is the length of EC ?**

1) 5.9 cm

2) 6.2 cm

3) 6.7 cm

4) 5.6 cm

**32.** **From the given figure, find the value of ∠x.**

1) 27°

2) 23°

3) 42°

4) 21°

**One or more Correct Answer Type:**       **9 × 4 = 36**

33. **The length of a rectangle is 17.23 cm and breadth is 13.5 cm. Find the perimeter and area of the rectangle.**

1) P = 61.46 cm             2) P = 6.146 cm

3) A = 232.61 sq.cm      4) A = 23.26 sq.cm

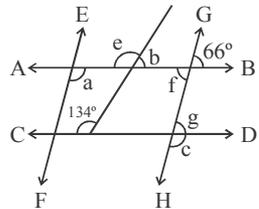34. **If $a^{x-1} = bc$, $b^{y-1} = ca$, $c^{z-1} = ab$, then which of the following statement is true ?**

1) $\dfrac{1}{x} + \dfrac{1}{y} + \dfrac{1}{z} = 1$        2) $x + y + z = 3xyz$

3) x+y+z = 2xyz       4) xy+yz+zx = xyz

35. **If the area of a square field is 729 m², then the length of its**

1) perimeter =108m      2) diagonal is $27\sqrt{2}$ m

3) side is 23 m             4) side is 27 m

36. **If AB ||CD, EF||GH, then which of the following is true?**

1) b = 46º

2) c = 114º

3) a = 114º

4) g = 104º

37. **Which of the following figures have rotational symmetry?**
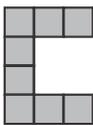


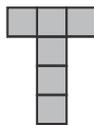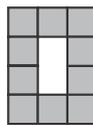Figure 1     Figure 2     Figure 3     Figure 4
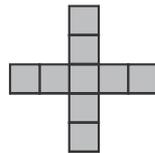
1) Figure-4    2) Figure-3    3) Figure-2    4) Figure-1

38. **If $x^y \times y = 1215$, x, y∈N and x ≠ 1, y ≠ 1, then the value of**

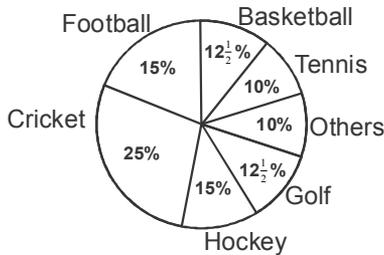1) y–x = 1     2) y = 5     3) x = 3     4) x = 4

**39.** **The marks scored by 15 students (out of 25) in a Mathematics test are as follows:**

**19, 25, 23, 20, 9, 20, 15, 10, 5, 16, 25, 20, 24, 12, 20**

**Find the mean, mode and median of this data.**

1) Mean = 20                    2) Median = 20

3) Mode = 20                    4) Mean = 17.53

**40.** **The pie-graph drawn here shows the spendingd of a school on various sports during a particular year.**



1) The ratio of the total amount spent on football to that spent on hockey is 1 : 1

2) If the total amount spent on sports during the year was ₹ 1,20,000, the amount spent on basketball was ₹ 15000

3) Graph shows that the most popular game of the country is Football

4) The country spent the same amount on Hockey and Cricket

**41.** **If ΔNVY ≅ ΔAJU and both the triangles are scalene, which of the following is FALSE ?**

1) NV = JU                    2) VY = AJ

3) ∠VNY = ∠AUJ                    4) ∠VYN = ∠JUA

*** *ALL THE BEST* ***