SCIENCE OLYMPIAD FOUNDATION

SOF INTERNATIONAL MATHEMATICS OLYMPIAD 2025-26

CLASS 6

QUESTION PAPER SET A

Total Questions : 50 Time : 1 hr.

Guidelines for the Candidate

1. You will get additional ten minutes to fill up information about yourself on the OMR Sheet, before the start of the exam.
2. Write your **Name, School Code, Class, Section, Roll No.** and **Mobile Number** clearly on the **OMR Sheet** and do not forget to sign it. We will share your marks / result and other information related to SOF exams on your mobile number.
3. The Question Paper comprises four sections:
   Logical Reasoning (15 Questions), **Mathematical Reasoning** (20 Questions), **Everyday Mathematics** (10 Questions) and **Achievers Section** (5 Questions)
   Each question in Achievers Section carries 3 marks, whereas all other questions carry 1 mark each.
4. All questions are compulsory. There is no negative marking. Use of calculator is not permitted.
5. There is only ONE correct answer. Choose only ONE option for an answer.
6. To mark your choice of answers by darkening the circles on the OMR Sheet, use **HB Pencil** or **Blue / Black ball point pen** only. E.g.
   Q. 16: Navya purchased a hand bag for ₹ 345.50, a pair of shoes for ₹ 480.25 and a cap for ₹ 75.50. How much money did she spend in all?
   A. ₹ 901.25 B. ₹ 785.50 C. ₹ 895.75 D. ₹ 920.25
   As the correct answer is option A, you must darken the circle corresponding to option A on the OMR Sheet. 16. ● Ⓑ Ⓒ Ⓓ
7. Rough work should be done in the blank space provided in the booklet.
8. Return the OMR Sheet to the invigilator at the end of the exam.
9. Please fill in your personal details in the space provided before attempting the paper.

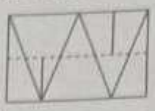
Name:.....

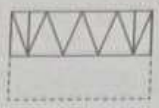
SOF Olympiad Roll No.:.....

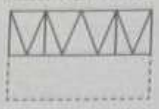
Contact No.:.....

DO NOT OPEN THIS BOOKLET UNTIL ASKED TO DO SO

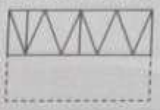
1. A rectangular transparent sheet with a pattern and a dotted line on it is given. Select a figure from the options as to how the pattern would appear when the transparent sheet is folded along the dotted line.



A. 

B. 

C. 

D. 

2. There is a certain relationship between the pair of numbers on either side of ::. Identify the relationship on the left pair and find the missing number.

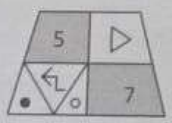
87 : 56 :: 96 : ?

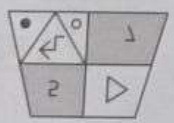
A. 48
B. 64
C. 54
D. 72

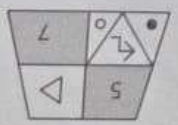
3. In a row of teachers, Nakul is 12th from the left end and 17th from the right end. How many teachers are there in the row?

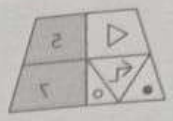
A. 28
B. 27
C. 29
D. 26

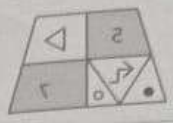
4. Select the CORRECT mirror image of the given figure, if the mirror is placed vertically to the left.



A. 

B. 

C. 

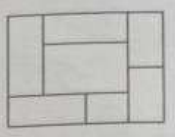
D. 

5. Find the missing number in the given number series.

1024, 512, ?, 16, 1

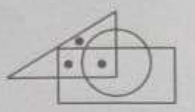
A. 256
B. 32
C. 128
D. 148

6. Find the number of rectangles formed in the given figure.

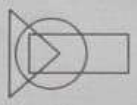


A. 11
B. 12
C. 13
D. More than 13

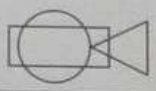
7. Select a figure from the options which satisfies the same conditions of placement of dots as in the given figure.



A. 

B. 

C. 

D. 

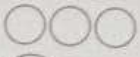
8. In a certain code language, if MEDIUM is written as GGNPWJ, then how will PLEASE be written in the same code language?

A. QNHBUH
B. QNICUE
C. HUBHNQ
D. HNQHUB

9. Which of the following Venn diagrams best represents the relationship amongst, "Brothers, Women and Fathers"?

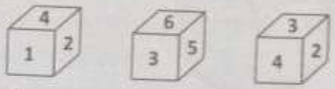
A. 

B. 

C. 

D. 

10. Three different positions of a dice are shown below. Which of the following numbers are not opposite to each other?



A. 1 and 3
B. 2 and 6
C. 5 and 4
D. 6 and 4

11. Read the given information carefully and select the CORRECT option.

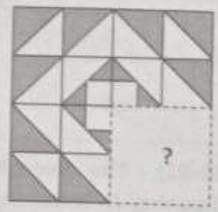
N is the mother of R. R is the brother of A, who is daughter of G. S is the brother of G. How is S related to N?

A. Brother
B. Cousin
C. Brother-in-law
D. Uncle

12. During a race, Nidhi ran 200 m towards East. She then turns right and runs 100 m and then turns right again and runs 400 m. Finally she turns right and runs 100 m to reach the finishing point. How far is she now from the starting point?

A. 200 m
B. 400 m
C. 300 m
D. 250 m

13. Which of the following figures will complete the pattern in the given figure?



A. 

B. 

C. 

D. 

14. If 'J' means '–', 'K' means '+', 'L' means '×' and 'M' means '÷', then the value of 13 L 70 K 35 J 45 M 9 is _____.

A. 100
B. 150
C. 817
D. 940

15. If the seventh day of July is Monday, then what day will be the fourth day after 26th July?

A. Tuesday
B. Thursday
C. Monday
D. Wednesday

MATHEMATICAL REASONING

16. Which of the following numbers is both a cube number and a power of 2?

A. 64
B. 125
C. 32
D. 128

17. How much more is the value of $2\frac{1}{3}$ right angles than the value of $\frac{1}{4}$ of a straight angle?

A. 255°
B. 165°
C. 195°
D. 175°

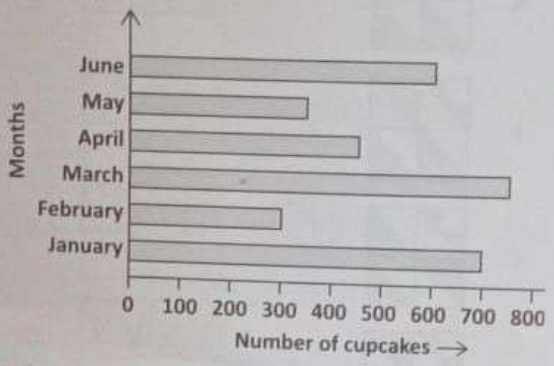
18. The value of $6\frac{1}{5}-\left\{4\frac{1}{3}+\left(1\frac{1}{4}-1\frac{1}{6}\right)\right\}$ is

A. Greater than 2
B. Less than 2 but more than 1
C. Less than $\frac{1}{2}$
D. None of these

19. The sum of 5th multiple of 6 and 6th multiple of 12 is divisible by _____.

A. 8
B. 5
C. 2
D. 4

DIRECTIONS (20-21) : The given bar graph shows the production of cupcakes in a bakery shop for the first 6 months. Study the given graph carefully and answer the following questions.



20. In which month was the production of cupcakes is $\frac{3}{4}$ of the production of cupcakes in June?

A. January
B. March
C. April
D. May

21. How many more cupcakes were produced in the months of March and May together than the number of cupcakes produced in the months of January and February together?

A. 250
B. 150
C. 200
D. 100

22. If a number starts with 26, then which of the following numbers will not appear in the Collatz sequence?

A. 16
B. 13
C. 21
D. 40

23. A train leaves the station at 9 : 20 and takes 2 hours 25 minutes to reach its destination. Which of the following clocks shows the time it reaches the destination?

A. 

B. 

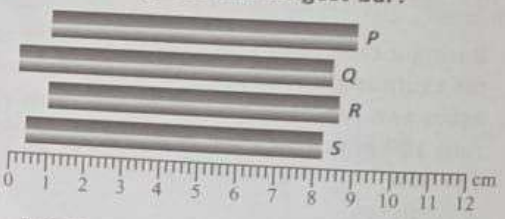
C. 

D. 

24. I am a 5-digit palindrome. I am an even number. My hundreds place digit is twice of units place digit. My thousands place digit is three less than the hundreds place digit. My tens place digit is greater than the units place digit. Identify the number.

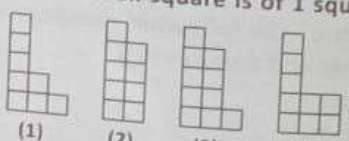
A. 25852
B. 46864
C. 43834
D. 45854

25. The given figure shows 4 bars of different lengths. What is the length of the longest bar?



A. 7.8 cm
B. 8.2 cm
C. 8 cm
D. None of these

26. In the figure given below, pieces of squared sheets are shown. Each small square is of 1 square unit.



Two of them can be joined together without overlapping to form a rectangle. The area of this rectangle (in square units) is _____.

A. 18
B. 19
C. 16
D. 17

27. Observe the following pattern and find the sum of $1 + 3 + 5 + 7 + 9 + ... + 19 + 21$.

$1 = 1$
$1 + 3 = 4$
$1 + 3 + 5 = 9$
$1 + 3 + 5 + 7 = 16$
$1 + 3 + 5 + 7 + 9 = 25$
.....
.....

A. 121
B. 81
C. 100
D. 64

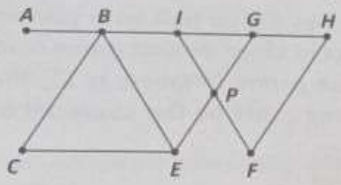
28. A man is standing facing South. In which direction will he face, if he turns

(a) 3 right angles clockwise

(b) $\frac{1}{4}$ of 360° anti-clockwise?

	(a)	(b)
A.	East	West
B.	North	West
C.	East	East
D.	North	East

29. How many line segments are there in the given figure?

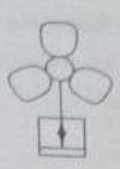


A. 17
B. 20
C. 19
D. None of these

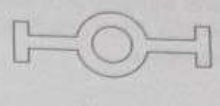
30. Find the maximum number of squares, each with side of 6 cm, that can be cut from a rectangular sheet of paper measuring 24 cm by 18 cm.

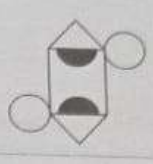
A. 8
B. 20
C. 16
D. 12

31. Which of the following figures does not have any line of symmetry?

A. 

B. 

C. 

D. 

32. Find the sum of largest 5-digit even positive integer and the largest 5-digit odd negative integer.

A. 89997
B. 89999
C. 80009
D. 10009

33. The sum of predecessor and successor of the smallest five digit number formed from the digits 1, 4, 0, 2 and 5 (using each digit only once) is _____.

A. 20490
B. 20480
C. 2490
D. 20508

34. What must be added to 98999 to make half a million?

A. 956450
B. 389004
C. 450999
D. 401001

35. To construct two concentric circles, you need to ensure that they:

A. Have the same radius
B. Overlap the circles with different centres
C. Have the same centre with different radii
D. Touch each other at one point.

EVERYDAY MATHEMATICS

36. A thin wire is bent to form a regular octagon with each side measuring 10 cm. If it is reshaped into regular pentagon, then what is the length of each side of the pentagon?

A. 12 cm
B. 16 cm
C. 20 cm
D. 18 cm

37. If one-eighth of a pencil is black, half of the remaining is yellow and the remaining $3\frac{1}{2}$ cm is blue, then what is the total length of the pencil?

A. 6 cm
B. 7 cm
C. 8 cm
D. 11 cm

38. Each floor of a building is fitted with 20 doors. There are 12 such floors in one building and there are 25 such buildings in a complex. Find the total number of doors fitted in the complex.

A. 2400
B. 3000
C. 6000
D. 5000

39. Mr. Kapoor left his office at 15:45 to attend a 3-hour seminar in Delhi. He took 2 hours 20 minutes to drive there but was 25 minutes late for the seminar. At what time did the seminar end?

A. 21 : 05
B. 22 : 10
C. 21 : 30
D. 20 : 40

40. Alisha is given two number sequence namely Triangular numbers and Virahānka numbers. She needs to identify among the following numbers which is both a Triangular number and Virahānka number. What could be her answer?

A. 21
B. 28
C. 15
D. 13

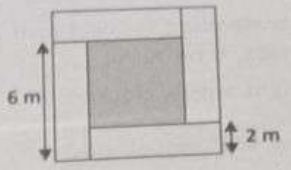
41. In a survey, 80 students were asked to vote for their favourite subject from English, Science and Maths. $\frac{1}{5}$ voted for English, $\frac{1}{4}$ voted for Science and the rest voted for Maths. How many more students voted for Maths than English?

A. 46
B. 42
C. 28
D. 38

42. From Library, Drishti need to take left turn and cover 93 steps to reach the community hall. One day, by mistake, she turns to right and after walking 53 steps, she realised that she is walking in the opposite direction. How many steps she has to walk back to reach the community hall?

A. 146
B. 40
C. 46
D. 126

43. Priya used four similar rectangular carpets and a square carpet for the flooring in her study room as shown below.



If it cost her ₹ 6 per square metre for the rectangular carpets and ₹ 8 per square metre for the square carpet, then how much did she pay in all?

A. ₹ 512
B. ₹ 600
C. ₹ 417
D. ₹ 416

44. A safe has digital lock with password which is the product of three distinct prime numbers. If the sum of these prime numbers is 15, then which of the following could be the password of safe?

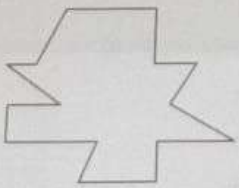
A. 105
B. 132
C. 175
D. 30

45. There are 26 rows of mango trees in a farm. Each row has 324 trees. Trees of 7 rows are cut down. The total number of remaining mango trees in the farm is _____.

A. 6516
B. 6480
C. 6156
D. 4446

ACHIEVERS SECTION

46. Study the following statements about the given figure carefully and state 'T' for true and 'F' for false.



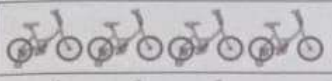
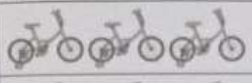
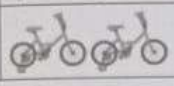
P. There are 6 reflex angles inside the figure.

Q. There are 5 pairs of perpendicular lines inside the figure.

R. There are 2 acute angles inside the figure.

	P	Q	R
A.	T	F	F
B.	T	F	T
C.	F	T	F
D.	T	T	F

47. The given pictograph shows the sales of bicycles in various shops in a year. Study the given graph carefully and answer the following questions.

Shops	Number of bicycles sold
P	
Q	
R	
S	
Each  represents 40 bicycles.	

(i) The cost of a bicycle in shop R is ₹ 1250. If cost of a bicycle in shop P is ₹ 450 more than of shop R, then who among shop P and shop R had more earning and by how much?

(ii) Find the difference of earning of shop Q and shop S, if cost of each bicycle in shop Q and shop S are ₹ 1500 and ₹ 1750 respectively.

	(i)	(ii)
A.	R, ₹ 22000	₹ 60000
B.	P, ₹ 22000	₹ 40000
C.	R, ₹ 24000	₹ 80000
D.	P, ₹ 12000	₹ 40000

48. Read the given statements carefully and select the CORRECT option.

Statement-1 : The sum of –5, 8, –11, 14 and 29 is 36 more than the largest negative integer.

Statement-2 : The sum of two integers is –108. If one of them is –74, then the additive inverse of other integer is –34.

A. Statement-1 is true but Statement-2 is false.
B. Statement-1 is false but Statement-2 is true.
C. Both Statement-1 and Statement-2 are true.
D. Both Statement-1 and Statement-2 are false.

49. Match the following and select the CORRECT option.

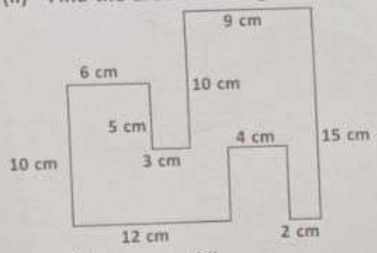
Column-I	Column-II
(i) The fraction of prime numbers from 1 to 30 is	(p) 19
(ii) If the product of a number and the sum of $2\frac{1}{5}$ and $\frac{9}{5}$ is 76, then the number is	(q) 50
(iii) The equivalent fraction of $\frac{13}{15}$ is	(r) $\frac{1}{3}$
(iv) If one-sixth of two-fifth of a number is 50, then $\frac{1}{15}$ of the same number is	(s) $\frac{52}{60}$

	(i)	(ii)	(iii)	(iv)
A.	(r)	(s)	(q)	(p)
B.	(r)	(p)	(q)	(s)
C.	(r)	(p)	(s)	(q)
D.	(p)	(r)	(s)	(q)

50. Refer to the given figure (not drawn to scale), answer the following questions and select the CORRECT option.

(i) Find the perimeter of the figure.

(ii) Find the area of the figure.



	(i)	(ii)
A.	86 cm	175 cm^2
B.	80 cm	190 cm^2
C.	86 cm	190 cm^2
D.	75 cm	175 cm^2

SPACE FOR ROUGH WORK