SCIENCE OLYMPIAD FOUNDATION

DO NOT OPEN THIS BOOKLET UNTIL ASKED TO DO SO

IMO

SOF INTERNATIONAL MATHEMATICS OLYMPIAD 2024-25

CLASS 4

SET-B

Total Questions : 35 | 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 (10 Questions), **Mathematical Reasoning** (10 Questions), **Everyday Mathematics** (10 Questions) and **Achievers Section** (5 Questions)
   Each question in Achievers Section carries 2 marks, whereas all other questions carry one 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: Raghav drinks 10 glasses of water in one day. If he drinks same amount of water every day, then how many glasses of water will he drink in one week?
   A. 70 B. 40 C. 50 D. 65
   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:.....

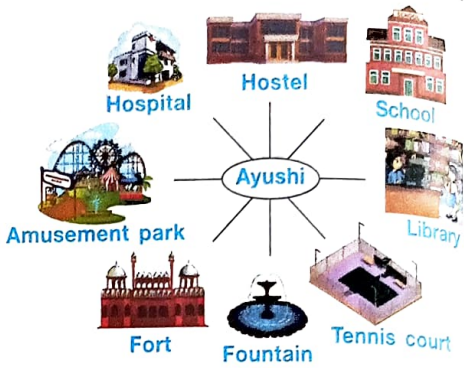
SOF Olympiad Roll No.:..... Contact No.:.....

1 How many of the following figures have at least one line of symmetry?

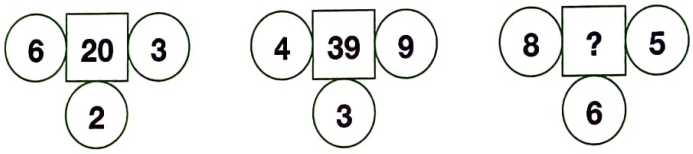
A. 2 B. 3 C. 1 D. 4

2 Ayushi is facing towards the Tennis court. If she takes $\frac{1}{4}$ turn anti-clockwise and then $\frac{5}{8}$ turn clockwise, then what will she be facing now?

A. Amusement park
B. Hostel
C. Fort
D. Hospital

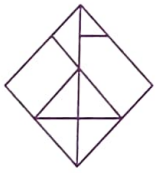
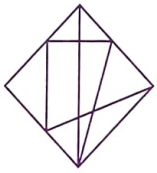
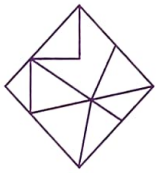
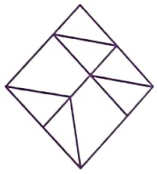


3 Find the missing number, if same rule is followed in all the three figures.



A. 42 B. 36 C. 48 D. 46

4 Select a figure from the options in which the given figure is exactly embedded as one of its parts.

A. 
B. 
C. 
D. 

5 Naina went for walk on every Monday, Thursday and Saturday in the month of October 20XX. If she walked in the morning and evening as well, then how many times did she go for walk in that month?

A. 24 B. 13
C. 26 D. 18

OCTOBER 20XX						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
	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			

SPACE FOR ROUGH WORK

6 **Form a meaningful English word from the given combination of letters and select the category of that word.**

L, A, E, T, B

A. Instrument B. Month C. Colour D. Furniture

---

7 **If two stones M and E are removed from the given arrangement, then stone _____ is fourth to the left of second stone from the right end.**

(Left) C V R G K N S W E M

A. K B. R C. V D. W

---

8 **How many different possible combinations of 1 laptop and 1 mouse each can be formed from the given laptops and mouses?**

A. 18 B. 9 C. 24 D. 20

---

9 **If 'Flute' means 'Guitar', 'Guitar' means 'Map', 'Map' means 'Shoes' and 'Shoes' means 'Ball', then _____ is used to find the location of a place.**

A. Guitar B. Shoes C. Map D. Flute

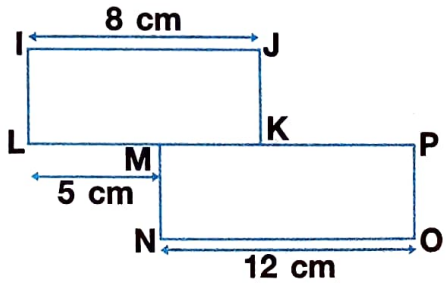
---

10 **Select the odd one out.**

A. GJ B. IK C. TW D. MP

MATHEMATICAL REASONING

11 **IJKL and MNOP are two rectangles. Find the length of KP.**



A. 3 cm

B. 5 cm

C. 8 cm

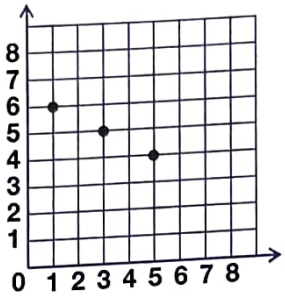
D. 9 cm

SPACE FOR ROUGH WORK

12 If P is the greatest 4-digit number that can be formed from the digits 9, 1, 0 and 7 (using each digit at least once), then what will be the round off value of P, when it is rounded off to the nearest hundreds place?

A. 9800 B. 10000 C. 9700 D. 8000

13 Veer plotted 3 points on a grid line. The three points together makes a _____.



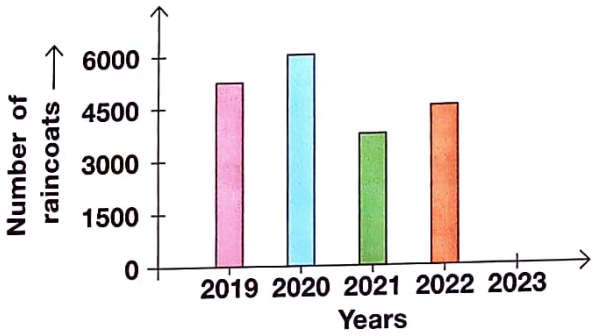
A. Straight line B. Square C. Triangle D. None of these

14 If the given clock is 45 minutes fast, then what will be CORRECT time after 2 hours 20 minutes?

A. 8 : 45 B. 8 : 30

C. 7 : 30 D. 9 : 30

DIRECTIONS (15-16) : The given bar graph shows the number of raincoats produced by a company in the given five years. Study the given graph carefully and answer the following questions.



15 If the total number of raincoats produced in the given five years is 22500, then how many raincoats were produced in 2023?

A. 3500 B. 3750 C. 4000 D. 3000

16 Find the fraction of number of raincoats produced in the year 2020 to that in the year 2022.

A. $\frac{4}{3}$ B. $\frac{2}{3}$ C. $\frac{3}{4}$ D. $\frac{3}{2}$

SPACE FOR ROUGH WORK

17 If $\square + \bigcirc + \bigcirc + \uparrow = 189$; $\square + \bigcirc + \uparrow = 147$ and $\bigcirc - \uparrow = 12$, then find the value of $\uparrow$.

A. 30 B. 42 C. 35 D. 47

---

18 Compare the following and select the CORRECT option.

$$\frac{1}{4}+\frac{5}{6}+\frac{3}{12} \quad \square \quad \frac{7}{12}+\frac{3}{6}+\frac{1}{3}$$

A. < B. = C. > D. Can't say

---

19 Arrange the following in descending order and select the CORRECT option.

81 L 252 mL	20 L less than 70 L 520 mL	15 L more than 80 L 250 mL
P	Q	R

A. R, P, Q B. P, Q, R C. R, Q, P D. Q, P, R

---

20 On dividing the greatest 4-digit even number by 15, we get _____.

A. Quotient = 690 and Remainder = 7 B. Quotient = 566 and Remainder = 8

C. Quotient = 660 and Remainder = 7 D. Quotient = 666 and Remainder = 8

EVERYDAY MATHEMATICS

21 Box X contained 1230 cards and box Y contained twice as many cards as box X. How many total cards do the two boxes contain?

A. 3675 B. 3690 C. 3540 D. None of these

---

22 Puneet wanted to take the bus at 6:25 p.m. He arrived at the bus stop 40 minutes before 6:25 p.m. At what time did Puneet arrive at the bus stop?

A. 5:35 p.m. B. 5:45 p.m. C. 4:45 p.m. D. 5:25 p.m.

---

23 Shruti and Payal shared a cake at a party. Shruti ate $\frac{1}{3}$ of the cake while Payal ate $\frac{1}{9}$ of the cake. What fraction of the cake did they eat altogether?

A. $\frac{1}{3}$ B. $\frac{4}{9}$ C. $\frac{3}{5}$ D. $\frac{2}{3}$

---

24 Mohit had ₹ 1950. He bought a book that costed ₹ 319, a toy that costed ₹ 280 and a pair of shoes. After buying these items, he had ₹ 780 left. How much did he pay for the pair of shoes?

A. ₹ 571 B. ₹ 380 C. ₹ 619 D. ₹ 431

SPACE FOR ROUGH WORK

25 When rounded off to the nearest 1000, the population of Sikkim becomes 608000. Whic of the following could be the actual population of Sikkim?

A. 607688 B. 607488 C. 617695 D. 608988

26 Rashi walked 4 times around a square field each side of which is 55 m long. How muc total distance did she cover?

A. 800 m B. 440 m C. 880 m D. 650 m

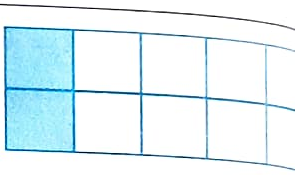
27 Sumit gave 50 stickers to each of his student. He then has 20 stickers left. If h had bought 80 packets of 9 stickers each, then to how many students did he give th stickers?

A. 10 B. 14 C. 12 D. 15

28 The amount of money saved by Priya, Soham and Sukriti in a year was ₹ 1980, ₹ 312 and ₹ 2950 respectively. Who saved maximum amount in that year?

A. Soham B. Sukriti C. Priya D. Can't say

29 2 out of 10 parts in a rectangle are shaded. Divya wants to shade $\frac{3}{5}$ of the rectangle. How many more parts she needs to shade?



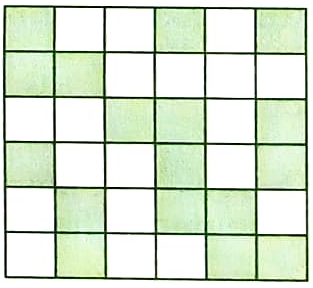
A. 6 B. 5 C. 4 D. 2

30 Gargi needs to drink 30 mL each of syrup two times in a day. How many days will sh take to finish 540 mL bottle of syrup?

A. 15 B. 9 C. 18 D. 20

ACHIEVERS SECTION

31 How many minimum number of squares that must be shaded so that the given figu is symmetrical?



A. 3 B. 4 C. 5 D. None of these

SPACE FOR ROUGH WORK

32 There are 1750 students in a school. $\frac{2}{5}$ of them are boys and rest are girls. $\frac{4}{7}$ of the boys participated in different olympiads and $\frac{1}{5}$ of the girls did not participate in any olympiad. Among the students who participated in olympiads, if $\frac{1}{10}$ of the boys and $\frac{1}{12}$ of the girls won the gold medal, then find

(i) How many of the students who participated in olympiad did not get gold medal?

(ii) How many more girls than boys won the gold medal?

	(i)	(ii)
A.	1240	100
B.	1130	30
C.	1240	30
D.	1130	70

---

33 The given pictograph shows the number of players applied from different cities for the selection of National Football team. Study the given pictograph carefully and answer the following questions.

Cities	Number of players applied
P	⚽⚽⚽⚽⚽⚽
Q	⚽⚽⚽⚽⚽⚽⚽⚽
R	⚽⚽⚽⚽⚽⚽⚽⚽
S	⚽⚽⚽⚽⚽⚽⚽⚽⚽⚽
T	⚽⚽⚽⚽⚽⚽⚽⚽⚽⚽⚽⚽
Each ⚽ stands for 200 players.	

(i) If each ⚽ stands for 400 players, then how many symbols will be used for city T?

(ii) The number of players applied from city _____ is $\left(\frac{1}{3}\right)^{rd}$ of the total number of players applied from cities Q and S.

	(i)	(ii)
A.	6	P
B.	6	T
C.	5	R
D.	4	P

SPACE FOR ROUGH WORK

34 Read the given statements carefully and state T for true and F for false.

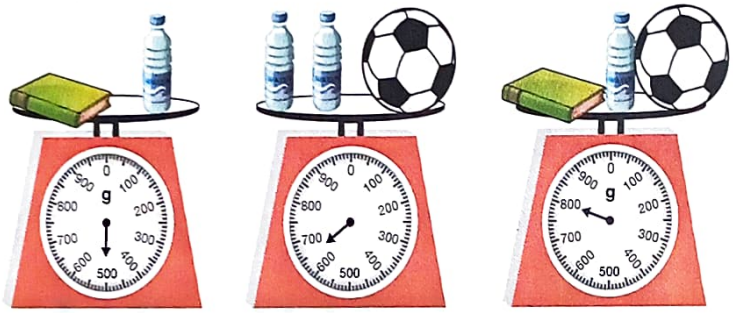
(i) The LCM of 15 and 20 is same as the HCF of 30 and 60.

(ii) The sum of all the factors of the smallest 2-digit number is 171.

(iii) The estimated value of 995 × 79 when each number is rounded off to the nearest tens place is 80000.

	(i)	(ii)	(iii)
A.	F	T	T
B.	F	F	T
C.	T	F	T
D.	T	T	F

35 Observe the given picture carefully and answer the following question.



What is the weight of 3  + 2  + 2  ?

A. 3 kg 420 g B. 1 kg 925 g C. 2 kg 820 g D. 1 kg 715 g

SPACE FOR ROUGH WORK