DO NOT OPEN THIS BOOKLET UNTIL ASKED TO DO SO

Name:……

Arifinkidz Roll No:……..

Total Questions: 50 Time: 60 Minutes

SMO
SUMMER MATHEMATICS OLYMPIAD

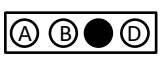
Arifinkidz Summer Maths Olympiad 2024

CLASS 6

SET-A

Guidelines for the Candidate

- You will get additional 5 minutes to fill up information about yourself on the OMR Sheet, before the start of the exam.
- Write your **Name, School** and **Arifinkidz Roll No.** clearly on the OMR Sheet.
- The Question Paper comprises four sections:
  Logical Reasoning, Mathematical Reasoning, Everyday Mathematics (45 Questions) **and Achievers Section** (5 Questions).
  Each question in Achiever Section carries 3 marks, whereas all other questions carry one mark each.
- All questions are compulsory. There is no negative **(-)** marking.
- All questions are (MCQ) types. There is only ONE correct answer. Choose only ONE option for an answer.
- To mark your choice of answer by darkening the circles on the OMR Sheet, Use **HB Pencil** or **Blue/Black ball point pen** only. E.g.
  Question: Radha bought 10 candies. She ate 4 candies. How many candies are left with her?
  A. 5 B. 4 C. 6 D. 7
  As the correct answer is option C, you must darken the circle corresponding to option C on the OMR Sheet.



- Return the OMR Sheet to the invigilator at the end of the exam.

1. Which of the following options will be the mirror image of the given word?

INFORMATIONS

(A) INFORMATIONS (B) INFORMATIONS

(C) INFORMATIONS (D) INFORMATIONS

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2. Find out the next term in the series:

70, 20, 60, 25, 50, _____

(A) 40 (B) 30 (C) 20 (D) 60

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3. If P + Q means P is the brother of Q. P – Q means 'P' is the sister of 'Q' and P × Q means 'P' is the father of 'Q'. which of the following means that 'C' is the son of 'M'?

(A) N + M – F × C (B) F – C + N × M

(C) M × N – C + F (D) M – N × C + F

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4. Rahim walks 20 km towards North. Then he turns left and walks 40 km. He again turns left and walks 20 km. Finally, he moves 20 km after turning to the left. How far and in which direction is he from his starting position?

(A) 20 km, East (B) 10 km, East (C) 20 km, West (D) 30 km, east

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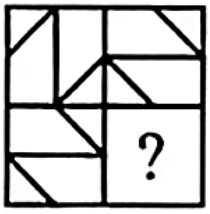
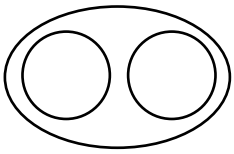
5. Identify the figure that completes the pattern.

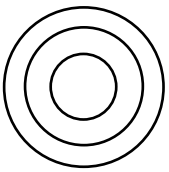


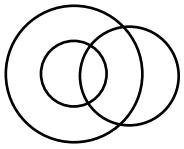
(A)  (B)  (C)  (D) 

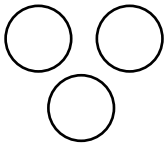
◀SPACE FOR ROUGH WORK▶

6. Which of the following venn diagrams indicates the best relation between football, players and field?

(A) 

(B) 

(C) 

(D) 

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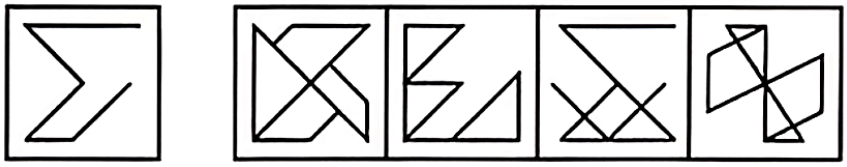
7. Find out the alternative figure which contain figure(X) as its part.



(X) (A) (B) (C) (D)

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8. Choose the correct water image of the given figure (X).

(X)

(A) 

(B) 

(C) 

(D) 

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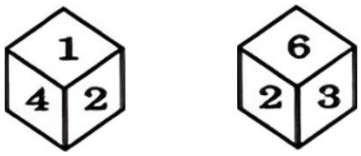
9. In a certain code ‘FROZEN’ is written as ‘OFAPSG’. Then how would ‘MOLTEN’ be written in that code?

(A) OFUMPN (B) OFPOMN (C) OFUMON (D) OFSMPN

◀SPACE FOR ROUGH WORK▶

10. Two positions of a dice are shown. When 5 is at the top, what number will be at the bottom?



(A) 6 (B) 2 (C) 3 (D) 1

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11. 'Y' is in the east of 'X', which is in the north of 'Z'. If 'P' is in the south of 'Z', then in which direction of 'Y', is 'P'?

(A) North-west (B) South (C) North-east (D) South-west

---

12. Arrange the words given below in a meaningful sequence.

1. Income 2. Status 3. Education 4.Well-being 5.Job

(A) 3, 5, 1, 2, 4 (B) 3, 1, 5, 2, 4 (C) 1, 3, 2, 5, 4 (D) 1, 2, 5, 3, 4

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13. In a row of 60 persons, Rahul is 27^{th} from the left end. Find out his position from the right end.

(A) 35 (B) 34 (C) 36 (D) 33

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14. There is a certain relationship between the pair of words. Choose the pair that best represents a similar relationship as given.

PETAL : FLOWER

(A) base: ball (B) puppy : dog (C) tyre : bicycle (D) salt : pepper

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15. ZA_5, Y_4B, XC_6, W_3D, _____.

(A) V_2E (B) VE_7 (C) VE_5 (D) E_7V

◀SPACE FOR ROUGH WORK▶

16. Find the difference between the largest 6-digit number and the smallest 6-digit number by using the digits 3, 0, 2, 5, 9 (using each digit at least once)?

(A) 952039 (B) 794961 (C) 749691 (D) 203590

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17. Find the value of DCXXXIX + DCCXLIV – DCCCLVI?

(A) 427 (B) 571 (C) 527 (D) 497

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18. A number is divisible by 6, if _____.

(A) the sum of digits is divisible by 6.

(B) the number formed by the last two digits is divisible by 6.

(C) the last digit is divisible by 6.

(D) the number is divisible by 2 and 3.

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19. The value of 0.69 + 29.76 – 18.98 is _____.

(A) 12.47 (B) 13.37 (C) 14.87 (D) 11.47

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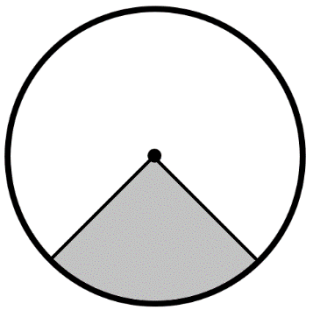
20. Name the shaded region of the given figure.



(A) Segment

(B) Chord

(C) Sector

(D) Radius

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21. Simplify $7\frac{2}{3} + 2\frac{1}{15} - 3\frac{2}{9} - 1\frac{3}{5}$

(A) $\frac{39}{45}$ (B) $\frac{211}{45}$ (C) $\frac{221}{45}$ (D) $\frac{212}{45}$

◀SPACE FOR ROUGH WORK▶

22. The points where medians of a triangle meet is called the _____.

(A) orthocenter (B) center (C) Centroid (D)incentre

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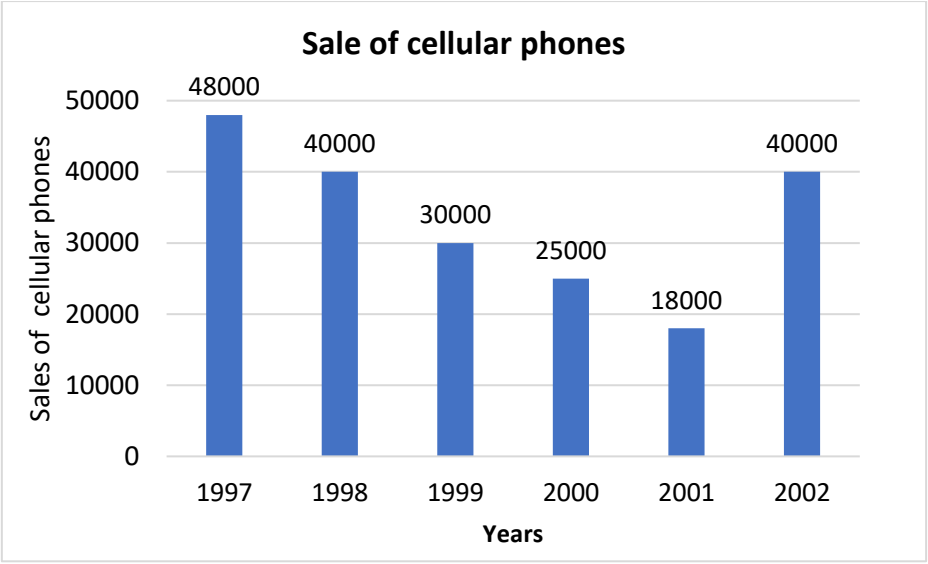
23. Rakesh multiplies a certain number by 29 and 11 is added to the product. He gets 504. Find the number.

(A) 19 (B)16 (C) 27 (D) 17

Direction (24-25): ***Read the following graph and answer the questions below.***



24. The sum of sales of cellular phones in the years 1999 and 2001 is equal to that in?

(A) 2000 (B) 1998 (C) 1997 (D) 2002

---

25. What is the ratio of sales of cellular phones for the years (1998 & 1999) to (2000 & 2002)?

(A) 13:14 (B) 65: 70 (C) 2: 3 (D) 14: 13

---

26. If 0.75 : X :: 5 : 8, then the value of 2X is _____.

(A) 1.20 (B) 1.25 (C) 2.40 (D) 2.30

◀SPACE FOR ROUGH WORK▶

27. In the word 'MATHEMATICS', the ratio of number of consonants to the number of vowels is _____?

(A) 4:7 (B) 5 : 4 (C) 7 : 4 (D) 5 : 3

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28. How many of the following letters have no line of symmetry?

ORANGES

(A) 3 (B) 4 (C) 5 (D) 6

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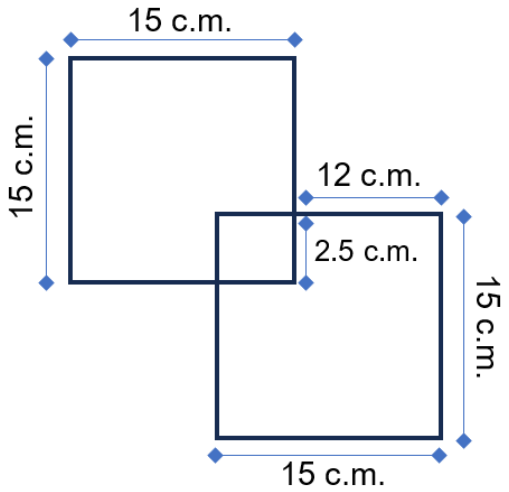
29. Find the perimeter of the given figure.



(A) 137.5 cm (B) 109 cm (C) 119.5 cm (D) 73 cm

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30. If $\frac{x}{4} = \frac{y}{5} = \frac{13}{7}$, then x + y is equal to _____.

(A) $16\frac{2}{7}$ (B) $15\frac{3}{7}$ (C) $16\frac{5}{7}$ (D) $15\frac{5}{7}$

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31. What least number should be added to 1689 to get a number exactly divisible by 43?

(A)12 (B) 21 (C) 31 (D)19

◀SPACE FOR ROUGH WORK▶

32. Simplify**:** 49.25 – [2.7{56 – (9 – 0.4)}]

(A) 78.73 (B) 76.63 (C) -76.63 (D) -78.73

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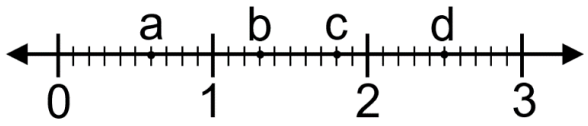
33. Find the value of (a + b) × (c + d)



(A) $4\frac{7}{25}$ (B) $8\frac{17}{100}$ (C) $5\frac{7}{25}$ (D) $5\frac{8}{25}$

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34. Two supplementary angles differ by 67°. The measure of the smaller angle is?

(A) 113° (B) 11.5° (C) 23° (D) 56.5°

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35. If P, Q and R represent the prime digits, then find the value of P+Q–R.

$$\begin{array}{cccc} & P & P & 3 \\ & \times & Q & Q \\ \hline 1 & R & 6 & 1 \\ +\,1 & R & 6 & 1\;\;0 \\ \hline 1 & 7 & 1 & 7\;\;1 \end{array}$$

(A) 16 (B) 4 (C) 9 (D) 27

EVERYDAY MATHEMATICS

36. 60 chairs and 25 blackboards were purchased for a school. If each chair costs ₹119/- and a blackboard costs ₹325/-, then find the total amount of the bill.

(A) ₹20540/- (B) ₹32625/- (C) ₹15265/- (D) ₹13725/-

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37. The students in a class can be divided into groups of 3, 5, 6 or 9. What is the least number of students this class can have?

(A) 30 (B) 90 (C) 60 (D) 18

◀SPACE FOR ROUGH WORK▶

38. Ritesh has Rs.132 /- in his savings account. He withdraws Rs.123/-, makes a deposit of Rs.59/- and then withdraws another Rs.72/-. Find the amount left in his account (Write the amount as an integer).

(A) Rs.14 (B) Rs.4 (C) Rs. -14 (D) Rs.-4

---

39. Rakesh had 256 chocolates. He gave $\frac{5}{8}$ of his chocolates to his father and $\frac{1}{4}$ of his chocolates to his brother. How many chocolates was he left with?

(A) 23 (B) 32 (C) 37 (D) 29

---

40. Shyla's present age is 'P' years. Express the present age (in years) of Shyla's mother in algebraic form, if she is five times as old as what Shyla will be after two years.

(A) 5P+2 (B) 5 (2P+1) (C) 5 (P+2) (D) 5P

---

41. A box contains Rs.1/-, Rs.2/-, and Rs.5/- coins in the ratio 2:3:7. If the total amount in the box is Rs. 516/-, then find the total number of coins.

(A) 12 (B) 721 (C) 243 (D) 144

---

42. Rahul bought a science book worth ₹387.25/-. He gave a ₹500 note to the shopkeeper. What amount will he get back?

(A) ₹114.75/- (B) ₹102.75/- (C) ₹112.75/- (D) ₹122.75/-

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43. Electric poles were planted at equal distances along a straight road. The distance between the first and the fifth electric pole is 80 m. Find the distance between the third and the ninth electric pole.

(A) 60 m (B) 120 m (C) 140 m (D) 100 m

◀SPACE FOR ROUGH WORK▶

44. The temperature at a place rises from -10°C to 20°C. What is the rise in temperature?

(A) 10°C (B) 20°C (C) 30°C (D) -30°C

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45. The cost of fencing a field at Rs.34/- per meter is Rs.8840/- and its length is 90 m. What is its breadth?

(A) 35 m (B) 40 m (C) 60 m (D) 55 m

ACHIEVERS SECTION

46. Rohit had some chocolates. He gave $\frac{1}{6}$ of the chocolates to his brother. Then he ate 24 chocolates and gave 18 chocolates to his father. He then had $\frac{1}{3}$ of the total chocolates left.

(i) How many chocolates did he have at first?

(ii) What fraction of the total chocolates he ate?

(A) (i) 60, (ii) $\frac{3}{10}$ (B) (i) 76, (ii) $\frac{4}{9}$ (C) (i) 84, (ii) $\frac{2}{7}$ (D) (i) 92, (ii) $\frac{7}{9}$

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47. A train covers a distance of 510 km in 6 hours.

(i) How much time it will take to cover a distance of 1105 km?

(ii) How far will it travel in 9 hours 30 minutes?

(A) (i) 13 hours, (ii) 807.5 km

(B) (i) 11 hours, (ii) 708.5 km

(C) (i) 11 hours, (ii) 807.5 km

(D) (i) 13 hours, (ii) 708.5 km

◀SPACE FOR ROUGH WORK▶

48. Rectangle ‘A’ and Square ‘B’ are put together to make Rectangle ‘P’. The length of the rectangle ‘A’ is twice its breadth. Each side of square ‘B’ is equal to the breadth of rectangle ‘A’.

35 c.m.

Rectangle ‘P’

(I) Find the perimeter of rectangle A.

(II) What is the difference between the perimeter of rectangle ‘P’ and rectangle ‘A’.

(A) (I)115 cm, (II) 45 cm

(B) (I) 105 cm, (II) 35 cm

(C) (I) 125 cm, (II) 55 cm

(D) (I) 110 cm, (II) 35 cm

---

49. (i) _____ is a chord of a circle passing through the center.

(ii) _____ are lines which do not meet.

(iii) Points are _____ if they do not lie on the same line.

(A) (i)-radius, (ii)-Perpendicular, (iii)-colinear

(B) (i)- radius, (ii) -perpendicular, (iii)-non-colinear

(C) (i)-Diameter, (ii)-Parallel, (iii)- non-colinear

(D) (i)-Diameter, (ii)-parallel, (iii)-colinear

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50. Match the columns:

Column-A	**Column-B**
P. 2x + 25 = 7x + 15	(i) x = 7
Q. $\frac{3x+7}{5}=\frac{2x-3}{2}$	(ii) x = -14
R. $6(x-1)+4=2(x+13)$	(iii) x = 2
S. $3(x-1)+2=4(x+3)+1$	(iv) x = $\frac{29}{4}$

(A) P-(iii), Q-(iv), R-(i), S-(ii)

(B) P-(i), Q-(ii), R-(iii), S-(iv)

(C) P-(iii), Q-(iv), R-(ii), S-(i)

(D) P-(iv), Q-(ii), R-(i), S-(iii)

◀SPACE FOR ROUGH WORK▶