International Vedic Maths Olympiad 2023
Lower Primary
Time allowed - 1 Hour

Questions 1 - 25: Score 2 marks for each correct answer and 0 marks for each incorrect answer.

1.

$$
\begin{array}{r}
6\ 4\ 7 \\
3\ 5\ 6 \\
2\ 9\ 8 \\
4\ 6\ 3 \\
+7\ 1\ 2 \\
\hline
\end{array}
$$

A 2676 **B** 2456 **C** 2476 **D** 2266 **E** 2456

2. $50000 - 3298$

A 46602 **B** 46701 **C** 45812 **D** 46702 **E** 47718

3. Which of the following is divisible by 4?

A 465774 **B** 990868 **C** 851642 **D** 778302 **E** 444314

4. $91.1 - 1.27$

A 7.84 **B** 78.76 **C** 88.73 **D** 90.07 **E** 89.83

5. 635042×11

A 6985462 **B** 698962 **C** 689562 **D** 675462 **E** 6975462

6. 115×115

A 11025 **B** 11125 **C** 12025 **D** 13225 **E** 15625

7. $16400 \div 25$

A 256 **B** 356 **C** 456 **D** 556 **E** 656

8. By continual summing the digits of a number until only one digit remains, you arrive at the digital root.
What is the digital root of 536242?

        A 1   **B** 2   **C** 3   **D** 4   **E** 5

9. What is the remainder when 23460025 is divided by 9?

        A 4   **B** 3   **C** 6   **D** 2   **E** 0

10. When using Vertically and crosswise to calculate 427 x 223, what is the result of the third step before any carry digits have been added?

        A 32   **B** 30   **C** 22   **D** 18   **E** 9

11. The square of a number is 3025. What is the number?

        A 25   **B** 35   **C** 45   **D** 55   **E** 65

12. Using Nikhilam multiplication, which of the following shows the correct calculation?

A	B	C	D	E
$7\,2 - 1\,8$	$7\,2 - 2\,7$	$7\,2 - 2\,8$	$7\,2 - 2\,8$	$7\,2 - 2\,3$
$\times\,9\,4 - 0\,6$	$\times\,9\,4 - 0\,4$	$\times\,9\,4 - 0\,6$	$\times\,9\,4 - 0\,4$	$\times\,9\,4 - 0\,6$
$6\,7 / 6\,{}_4 8$	$67 / 6\,{}_4 8$	$67 / {}_1 6\,{}_4 8$	$6\,7 / 6\,{}_4 8$	$67 / 6\,{}_4 8$

13. Which of the following is 5 less than a square number?

        A 12   **B** 33   **C** 59   **D** 87   **E** 96

14. I can divide a number by 16 by repeatedly halving four times. What is 2112 ÷ 16?

        A 66   **B** 528   **C** 264   **D** 132   **E** 123

15. $1 \times 2 \times 3 \times 4 \times 5 \times 6 \times 7 \times 8 \times 9 \times 10$

        A 403200   **B** 430280   **C** 453600   **D** 362800   **E** 3628800

16. A, B and C are three digits. B and C add up to 10.

$$\begin{array}{r} A\ B \\ \times\ A\ C \\ \hline 4216 \end{array}$$

What is the value of A?

> **A** 2 **B** 3 **C** 4 **D** 5 **E** 6

17. $\dfrac{23}{24}-\dfrac{2}{5}$

> A $\dfrac{67}{120}$ B $\dfrac{57}{120}$ C $\dfrac{19}{40}$ D $\dfrac{23}{40}$ E $\dfrac{77}{120}$

18. Which fraction is the largest?

> A $\dfrac{5}{8}$ B $\dfrac{7}{12}$ C $\dfrac{11}{16}$ D $\dfrac{13}{24}$ E $\dfrac{31}{48}$

19. 1423×1007

> **A** 1421941 **B** 1432961 **C** 14322941 **D** 1423941 **E** 1432841

20. 988×991

> **A** 979108 **B** 986708 **C** 989108 **D** 979099 **E** 988108

21. Which of the following is **not** divisible by 3?

> **A** 81219 **B** 72546 **C** 154183 **D** 451875 **E** 697281

22. A digital clock shows the time 15:37. In how many minutes will it be 1 O'Clock in the morning?

> **A** 437 **B** 463 **C** 523 **D** 563 **E** 623

23. In the old British system of measures, 12 inches = 1 foot, 3 feet make 1 yard, 22 yards make 1 chain, 10 chains make 1 furlong and 8 furlongs makes 1 mile. How many yards are there in one mile?

> **A** 1760 **B** 1500 **C** 1444 **D** 1220 **E** 948

24. The artist and inventor, Leonado da Vinci, wrote his notes in mirror writing, back to front. How many letters in this sentence would look the same in mirror writing?

MATHEMATICS IS AMAZING, FUN AND CLEVER

    A 11   **B** 13   **C** 15   **D** 16   **E** 18

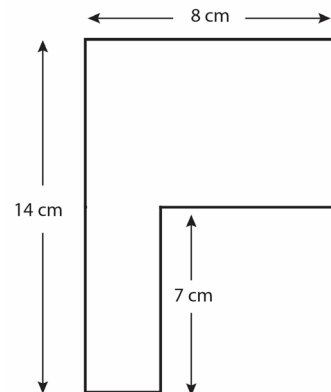**25.** Two rectangles are placed together as shown. What is the perimeter (distance around) the resulting shape?

  A 22 cm   **B** 29 cm   **C** 44 cm   **D** 36 cm

  E Not enough information to find the answer

Questions 26 - 35: Score 3 marks for each correct answer and -1 mark for each incorrect answer.

26. At a fruit farm, lemons are placed in trays each holding 24. Four trays make up one box. How many boxes are needed for 21120 lemons?

    A 216   **B** 218   **C** 220   **D** 222   **E** 224

27. A train travels from Delhi to Bengaluru, stopping at Nagpur and Hyderabad on the way. The distance from Delhi to Bengaluru is 2742 km. From Delhi to Nagpur is 1086 and from Hyderabad to Bengaluru is 1081 km. How far is it from Nagpur to Hyderabad?

  A 465 km   **B** 595 km   **C** 715 km   **D** 325 km   **E** 575 km

28. Maria bakes 240 cup cakes to sell at her school fete. She spends $80 on ingredients. She sells the cup cakes for 60 cents each. At the fete she sells 220 of her cup cakes. How much more was the money she received than the amount she spent on ingredients?

    A $48   **B** $52   **C** $54   **D** $58   **E** $64

29. A sequence starts, 2   8,   14,   20,   26, ...

When it continues, what is the 100th number in the sequence?

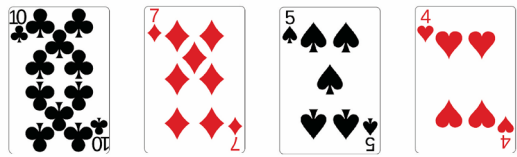   **A** 582   **B** 588   **C** 594   **D** 596   **E** 602

30. The four cards below are set out to show 10754. How many different numbers can be made by laying out these four playing cards (all the cards must be used for each number)?


A 6   **B** 12   **C** 18   **D** 24   **E** 30

31. The One Day International World Cup Final took place at Narendra Modi Stadium in Ahmedabad on 19th November. The stadium is the largest in the world and can seat 132000 people. Each ticket cost $353. What was the total amount taken from sale of tickets?
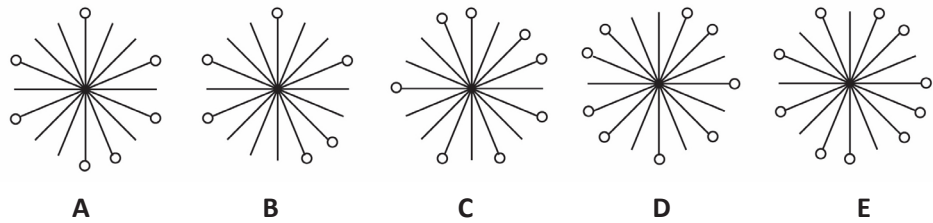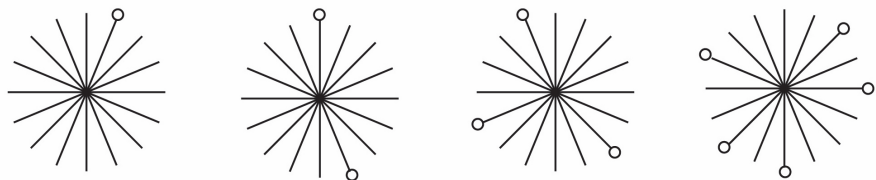
A $44586000   **B** $46596000   **C** $46786000   **D** $34696000   **E** $44496000

32. What is the top number in this addition number pyramid?

A 52   **B** 58   **C** 67   **D** 72   **E** 84
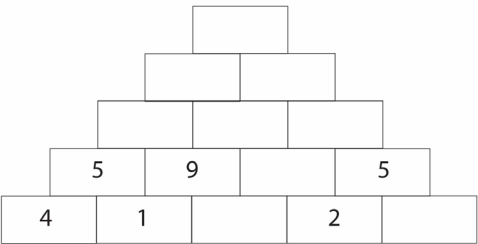
33. What is the next pattern in this sequence?

A   **B**   **C**   **D**   **E**

34. What fraction of the shape is shaded?

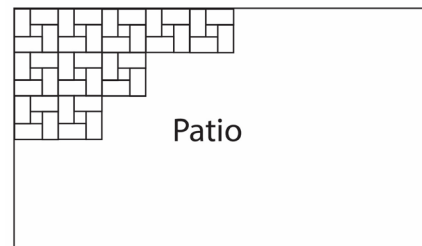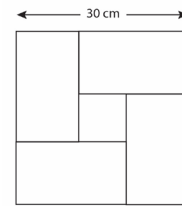A $\dfrac{1}{2}$ B $\dfrac{5}{12}$ C $\dfrac{7}{12}$ D $\dfrac{2}{3}$ E $\dfrac{3}{4}$
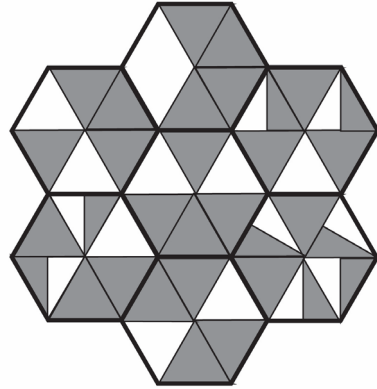
35. Four rectangular tiles and one small square tile are arranged into a 30 cm by 30 cm square as shown.
These squares are used to tile a patio.

600 rectangular tiles and 150 small square tiles are used to tile the patio?

What is the area of the patio in square metres?

   A 9 m²   **B** 13.5 m²   **C** 17.5 m²

       D 22.5 m²   **E** 30 m²

Questions 36 - 40: Score 4 marks for each correct answer and -2 marks for each incorrect answer.

36. A rectangular field measures 48 metres by 92 metres. A barbed wire fence is to be placed around the field for which wooden posts are needed every 2 metres. How many posts are required altogether?

       A 126   **B** 128   **C** 130   **D** 140   **E** 144

37. I add up all the even numbers between 1 and 101. Then from my total I subtract all the odd numbers from 0 to 100.
What is my answer?

   **A** 0   **B** 50   **C** 100   **D** 255   **E** 2525

38. My roof has a leak so I place a 2 litre bucket on the floor to catch the drips. Each drip has a volume of 1/3 of a millilitre. A drip falls into the bucket every 3 seconds. How long does it take for the bucket to be filled? (1 litre = 1000 millitlitres)

    A 2 hours   **B** 3 hours   **C** 4 hours   **D** 5 hours   **E** 6 hours

39. There are many different types of rectangle to be seen in this grid. ABCD is one type and PQRS is another type.

What is the total number of all types?

    A 80   **B** 120   **C** 280

        D 360   **E** 420
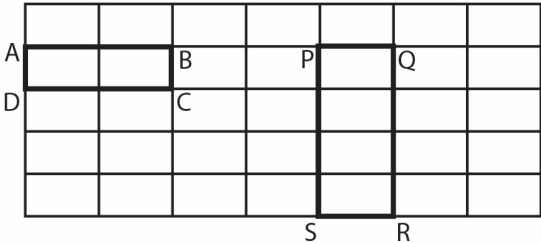
40. The men's world record for a 100 metre sprint is 9.58 seconds, set by Usain Bolt in 2009. How fast is this in kilometres per hour? (Answer to the nearest whole number)

    A 35 km/h   **B** 36 km/h   **C** 37 km/h   **D** 38 km/h   **E** 39 km/h

Answer Key Lower Primary IVMO 2023

Questions 1 - 25: *Score 2 marks for each correct answer and 0 marks for each incorrect answer.*
Questions 26 - 35: *Score 3 marks for each correct answer and -1 mark for each incorrect answer.*
Questions 36 - 40: *Score 4 marks for each correct answer and -2 marks for each incorrect answer.*

1. C	11. D	21. C	31. B
2. D	12. C	22. D	32. C
3. B	13. C	23. A	33. C
4. E	14. D	24. D	34. D
5. A	15. E	25. C	35. B
6. D	16. E	26. C	36. D
7. E	17. A	27. E	37. B
8. D	18. C	28. B	38. D
9. A	19. B	29. D	39. E
10. B	20. A	30. D	40. D

Answer Sheet Lower Primary IVMO 2023

Write your name in Block Capitals here

Write yours answers, A, B, C, D or E in the boxes below.

1.		11.		21.		31.	
2.		12.		22.		32.	
3.		13.		23.		33.	
4.		14.		24.		34.	
5.		15.		25.		35.	
6.		16.		26.		36.	
7.		17.		27.		37.	
8.		18.		28.		38.	
9.		19.		29.		39.	
10.		20.		30.		40.	