ORANGE GLOBAL OLYMPIAD

MATHEMATICS

Grade 6

National Level Examination

NLE 2025

Subject Code: | 2 | 0 | 1 |

Total Questions: 40 **Total Marks:** 40 **Time:** 1 hour

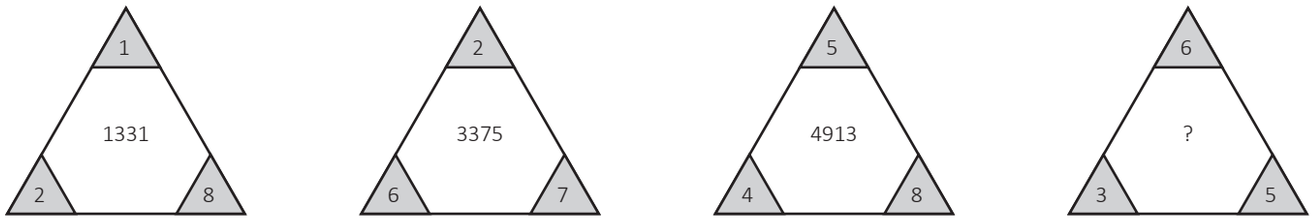
DO NOT OPEN THIS BOOKLET UNTIL INSTRUCTED TO DO SO

- All questions are compulsory.
- Read the instructions on the **ANSWER SHEET** and fill in your **NAME**, **CLASS** and **OTHER INFORMATION**.
- To mark your choice of answer by darkening the circles in the **ANSWER SHEET**, use a **BLUE/BLACK BALL PEN** only.
- You **MUST** record your answers on the **ANSWER SHEET** only.
- There are **40 MULTIPLE CHOICE QUESTIONS**. Use the information provided to choose the **BEST** possible answer among the four options. On your **ANSWER SHEET** fill in the circle that matches your answer.
- $\frac{1}{2}$ **MARK** will be deducted for every **WRONG ANSWER**.
- Return the **ANSWER SHEET** to the invigilator at the end of the examination.
- You are **NOT** allowed to use a calculator. You may use a ruler and spare paper for rough work.

GRADE 6

This question paper contains a total of 40 questions divided into three sections—A, B and C. Read the instructions carefully before attempting these questions.

Section A (Logical Reasoning)

1. 

(A) 2564 (B) 2684

(C) 2744 (D) 2904

2. If 10 + 9 = 13, 13 + 25 = 18, 11 + 4 = 13, then (12 + 16) is

(A) 14 (B) 16

(C) 18 (D) 20

3. In a certain language BAT is coded as 41400 then in the same language RAIN is coded as

(A) 324181196 (B) 324164225

(C) 334181196 (D) 334164225

4. There are N people (numbered 1,2,3,4, …, N) seated in two rows facing each other such that the 1st person is opposite to the N^{th} person (last person), the 2nd person is opposite to the $(N - 1)^{th}$ person (second last). If the person with number 9 is exactly opposite to the person with the number 128, then find N.

(A) 136 (B) 120

(C) 158 (D) 184

5. Find the odd one out.

(A) Rice-grain (B) Guava-fruit

(C) Student-class (D) Tomato-potato

6. If AB × AB = BCB, where A, B and C are digits, find the value of $(B^2 + C^2)$.

(A) 61 (B) 74

(C) 85 (D) 100

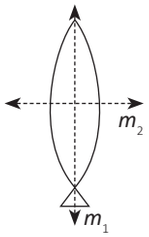
7. Choose the correct mirror image in the following:

D R A P E R Y E I S 5 7 3 9

(A) ᗡ Я A ꟼ Ǝ Я Y Ǝ I S Ƨ Ɛ 9 (B) 9 Ɛ Ɛ Ƨ S I Ǝ Y Я Ǝ ꟼ A Я ᗡ

(C) ᗡ Я A ꟼ Ǝ Я Y Ǝ I S Ƨ Ɛ 9 (D) 9 Ɛ Ɛ Ƨ S I Ǝ Y Я Ǝ ꟼ A Я ᗡ

8. Which is the mirror line in the given figure?



(A) m_1

(B) m_2

(C) Both m_1 and m_2

(D) None of these

Section B (Subject Specific)

9. The three angles of a quadrilateral are 75°, 105° and 85°, respectively. Find its fourth angle.

(A) 85° (B) 95°

(C) 75° (D) 105°

10. In a square shaped park whose side measures 25 m, a rectangular flower bed is located at the centre with dimension 6 m and 3 m. The area of the park excluding the flower bed is _____.

(A) 505 m^2 (B) 607 m^2

(C) 406 m^2 (D) 510 m^2

11. If $\frac{4}{5}$th of the strength of a class is 80, what is the total strength of the class?

(A) 20 (B) 100

(C) 110 (D) 90

12. What is the decimal shown by the shaded part of figure?

(A) 0.2 (B) 0.3

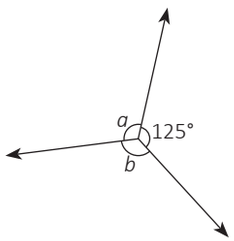
(C) 0.5 (D) 0.7

13. A rectangle is also a

(A) rhombus (B) kite

(C) parallelogram (D) square

14. What is the sum of the measures of angles *a* and *b* in the adjoining figure?



(A) 55° (B) 125°

(C) 185° (D) 235°

15. Sum of two fractions is $8\frac{1}{8}$. If one of the fraction is $4\frac{1}{4}$, what is the other fraction?

(A) $3\frac{7}{8}$ (B) $2\frac{1}{8}$

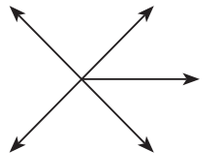
(C) $4\frac{3}{8}$ (D) $5\frac{5}{8}$

16. To construct the perpendicular bisector of a line segment AB, at what radius should the compass be set for drawing arcs from centre A?

(A) Less than half of AB. (B) More than half of AB.

(C) Equal to half of AB. (D) Any length of radius.

17. Number of angles (< 180°) formed in the given figure is _____.



(A) 5 (B) 10

(C) 8 (D) More than 12

18. Rakesh prepared 250 plates of Namkeen and 185 plates of Bhel to sell at school. He sold the Namkeen at ₹3 each and the Bhel at ₹2 each. If 128 plates of Namkeen remained unsold but all the Bhel were sold, how much did Rakesh earn?

(A) ₹1120 (B) ₹799

(C) ₹736 (D) ₹666

19. In a class of 50 students, $\frac{2}{5}$ travel to school by bus, 10 travel by car, and the rest walk. What is the fraction of students who walk to school?

(A) $\frac{1}{5}$ (B) $\frac{2}{5}$

(C) $\frac{3}{5}$ (D) $\frac{4}{5}$

20. If △ is an integer and (–30) + (–△) + 20 = 0, then the value of △ is _____.

(A) 20 (B) 10

(C) –10 (D) –20

21. Which of the following is the correct order of steps in data handling?

(A) Collect, Sort, Represent, Analyse, Interpret

(B) Analyse, Collect, Represent, Sort, Interpret

(C) Collect, Sort, Analyse, Represent, Interpret

(D) Represent, Collect, Sort, Analyse, Interpret

22. Which of the following shapes has exactly two lines of symmetry?

(A) Trapezium (B) Square

(C) Rectangle (D) Equilateral triangle

23. Temperature of Srinagar on a certain day is –11°C. It falls further by 7°C on the next day. What is the temperature after the fall?

(A) –18°C (B) 6°C

(C) –4°C (D) 4°C

24. What is the product of the first 5 prime numbers?

(A) 2310 (B) 210

(C) 330 (D) 300

25. Which of the following fractions is nearest to $\frac{3}{5}$?

(A) $\frac{499}{600}$ (B) $\frac{599}{600}$

(C) $\frac{299}{500}$ (D) $\frac{399}{500}$

26. If the temperature of City A is –20°C and the temperature of City B is 10°C, the difference in temperature between the two cities is

(A) –30°C (B) –10°C

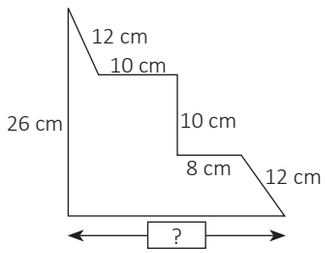
(C) 10°C (D) 30°C

27. If the 8-digit number 126 M 4595 is divisible by 15, then find the least possible value of M.

(A) 1 (B) 4

(C) 2 (D) 3

28. The figure has a perimeter of 110 cm. The missing length of the side is _____.



(A) 32 cm

(B) 40 cm

(C) 30 cm

(D) 78 cm

Instruction: Q. 29 to 33 are two-key based questions having four options A, B, C and D out of which TWO are correct.

29. A pair of adjacent angles will have

(A) no common arm (B) two common arms

(C) a common arm (D) a common vertex

30. Any prime number _____.

(A) has exactly 2 factors (B) has exactly 3 factors

(C) is divisible by itself (D) is not divisible by itself

31. Which of the following can be the measures of the sides of a triangle?

(A) 3 cm, 3 cm, 5 cm (B) 6 cm, 6 cm, 6 cm

(C) 6 cm, 4 cm, 2 cm (D) 10 cm, 6 cm, 3 cm

32. Which measurement of a circle will give the length of its diameter?

(A) 2 × Radius

(B) $2 \times \frac{\text{Area}}{\text{Radius}}$

(C) $2 \times \frac{\text{Circumference}}{2\pi}$

(D) $\frac{(2 \times \text{Area})}{\text{Circumference}}$

33. Which statement(s) is/are incorrect?

An angle is formed when we have

(A) two rays with a common endpoint.

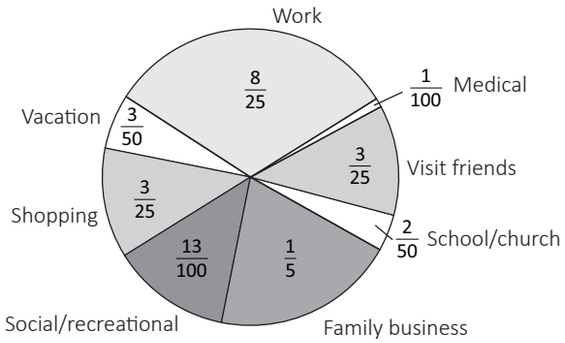
(B) a horizontal and a vertical line segment.

(C) a ray and a line segment parallel to each other.

(D) a ray at the initial position and a ray at the final position after a rotation about the endpoint of the first ray.

Section C (Competency Enhancement)

Directions (Qs 34 to 35): The given pie chart shows the fractional part of a car's total mileage in each category. In one year, Rudra's family drove 12,000 km in the family car.



Based on this information, answer the following questions.

34. How many kilometres might we expect to fall in the work category?

(A) 2400 km

(B) 1440 km

(C) 1560 km

(D) 3840 km

35. For which category did the car run 720 km?

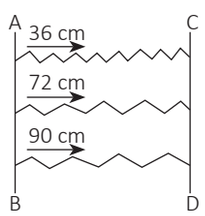
(A) Shopping

(B) Family business

(C) Vacation

(D) Social/recreational

Directions (Qs 36 to 37): Three children are walking. Their steps measure 36 cm, 72 cm, and 90 cm. If they step from line AB their steps will fall together again at line CD.



36. The distance between AB and CD is _____ cm.

(A) 320

(B) 300

(C) 360

(D) 260

37. In how many steps does the child having step measure 72 cm cover the distance between AB and CD?

(A) 10 steps (B) 6 steps

(C) 5 steps (D) 4 steps

Directions (Qs 38 to 40): Gauri has 36 blue marbles and 54 red marbles. She wants to put an equal number of marbles into some boxes in such a way that each box contains either blue or red marbles (not both). Based on this information answer the questions given below.

38. What number of groups can be made of 54 red marbles if each group consists of 9 marbles?

(A) 9 (B) 6

(C) 5 (D) 8

39. What would be the maximum number of marbles that can be put in each box?

(A) 18 (B) 12

(C) 24 (D) 36

40. What would be the minimum number of boxes required?

(A) 7 (B) 6

(C) 4 (D) 5

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