7th November 2025

CLASA a IV-a

Here are some suggestions to help you do your best:

- Read carefully each question and think about the answer before choosing your response.

RULES

- Part I has four multiple choice exercises.
- Part II must be solved into English.
- Part III must be translated into English, and then solved in English as well.

PART I.

1. Five children are talking about the number 2025:

Andreea: *It is a four-digit number.*
Bogdan: *The digit sum is nine.*
Cristina: *All the digits are different.*
Dan: *The units digit is odd.*
Elena: *The digit product is even.*
Who has made a mistake?

A. Andreea **B.** Bogdan **C.** Cristina **D.** Dan **E.** Elena

2. You can buy pencils in boxes of four or ten from a bookstore. Teo wants to buy exactly 48 pencils. What is the smallest number of boxes he must buy?

A.12 **B.**8 **C.**7 **D.** 6 **E.**4

3. Teo is training for a kendama contest. On the first day, he practises 5 different tricks, making 6 successful attempts for each trick.
Every day after that, he adds 2 more tricks to his practice routine. He practises for 4 days. How many successful kendama tricks does Teo complete altogether after the four days of practice?

A.120 **B.**128 **C**.180 **D.**192 **E.**216

4.The ten-letter code TEO IS MAGIC represents the ten digits from 0 to 9, in order. What four-digit number is represented by the code word METS?

A. 5104 **B.** 4895 **C.** 6215 **D.** 5204 **E.** 4093

PART II.

A large 240-litre container of oil was delivered to a store. The quantity of oil had to be equally divided among three other stores. At that moment, the store manager had only three empty barrels available: one of 50 litres, one of 110 litres, and one of 130 litres. He could deliver the oil using only the container and the barrels. How did the store manager proceed? — Justify your answer.

PART III.

Anca a colecţionat 440 de bile verzi şi galbene. Dacă renunţă la două bile verzi şi şase galbene, atunci dublul numărului de bile verzi rămase va reprezenta un sfert din numărul bilelor galbene rămase. Aflaţi numărul de bile verzi şi galbene colecţionate iniţial de Anca.

Gazeta matematică

7th November 2025

CLASA a V-a

Here are some suggestions to help you do your best:

- Read carefully each question and think about the answer before choosing your response.

RULES

- Part I has four multiple choice exercises.
- Part II must be solved into English.
- Part III must be translated into English, and then solved in English as well.

PART I.

1. The sum of all odd natural numbers smaller than 2026 is equal to:

A. $1013 \cdot 1014$ **B.** 1013^2 **C.** 1014^2
D. $1013 \cdot 2025$ **E.** $1012 \cdot 2025$

2. To rescue Ileana Cosânzeana, Prince Charming has to travel 300 km. He travels 50 km each day, but the Evil Fairy pushes him back 40 km every night. Price Charming will rescue Ileana Cosânzeana after:

A. 26 days **B.** 27 days **C.** 28 days **D.** 29 days **E.** 30 days

3. Maria read a 1000-page book and wants to find out how many times the digit 4 was used to count the pages of the book. Her friends want to help her and say:

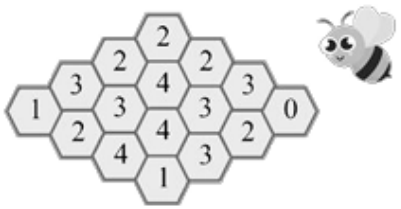
John: The digit 4 was used 100 times
Sophia: The digit 4 was used 150 times
Oliver: The digit 4 was used 200 times
Emily: The digit 4 was used 240 times
Grace: The digit 4 was used 300 times

The correct answer was given by:

A. John **B.** Sophia **C.** Oliver **D.** Emily **E.** Grace

4. The following image shows a honeycomb with 16 cells. Some cells, but not all, are filled with honey. The numbers in the cells indicate how many of the neighbouring cells are filled with honey.

How many cells of the honeycomb are filled with honey?



A.7 **B.**8 **C.**9 **D.**10 **E.** 11

PART II.

A thief is sharing the loot with his partner in crime. From a small bag containing 6000 gold coins, he takes out the coins one by one, counting:

"One for you, one for me; the second coin for you, two coins for me; the third coin for you, three coins for me, …"

At the last step, the partner receives one coin, and the thief takes all the remaining coins.

At each number spoken, the thief places one coin in front of his partner.

Find how many coins each of the two thieves receives.

PART III.

La ora de matematică, fiecare dintre cei 25 de elevi ai unei clase a V-a primește câte un cartonaș pe care este scris un număr natural nenul. Fiecare elev împarte numărul de pe cartonaș la 24 și comunică profesorului restul obținut la împărțire. Suma resturilor obținute este 288. Tudor constată că resturile obținute de colegii săi sunt diferite două câte două, iar câtul și restul obținute de el sunt egale.

a) Determinați ce număr este scris pe cartonașul lui Tudor.

b) Calculați suma numerelor scrise pe cele pe cele 25 de cartonașe, știind că fiecare elev, în afara lui Tudor, a obținut câtul cu 1 mai mare decât restul.

22METS

7th November 2025

CLASA a VI-a

Here are some suggestions to help you do your best:

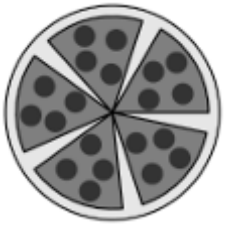
- Read carefully each question and think about the answer before choosing your response.

RULES

- Part I has four multiple choice exercises.
- Part II must be solved into English.
- Part III must be translated into English, and then solved in English as well.

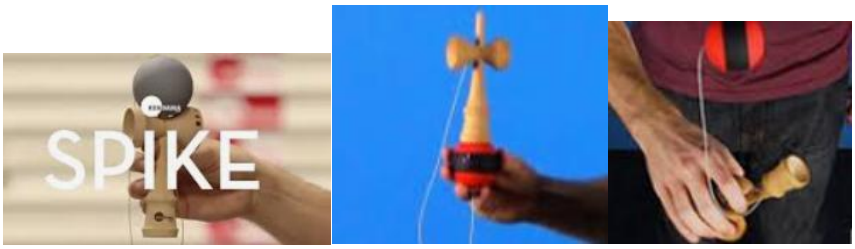
PART I.

1.Teo cuts a pizza into six equal slices. After he has eaten one slice, he rearranges the remaining pieces, so that the gaps between them are all equal. What is the measure of the angle in each gap?



A. $5°$ **B.** $8°$ **C.** $10°$ **D.** $12°$ **E.** $15°$

2. In a Kendama competition eighteen players can do the *Spike* trick. fourteen players can do the *Lighthouse* trick, twelve players can do the *Earth Turn* trick, six players can do both *Spike* and *Lighthouse*, five players can do both *Spike* and *Earth Turn*, four players can do both *Lighthouse* and *Earth Turn* and two players can do all three tricks. How many players can do at least one of the three tricks?



A. 27 **B.** 31 **C.** 35 **D.** 41 **E.** 44

3. The numbers 2301, 3004, and 3559, when divided by the same natural

number n > 1, give the same nonzero remainder.
The number n is:

A. even **B.** divisible by 3 **C.** a multiple of 5

D. prime **E.** a three-digit number

4. On a table there are 17 card**s**. On each card, the number **3** or the number **5** is written. If the sum of the numbers on the cards is divisible by 19, find how many cards have the number 3 written on them?

A. 3 **B.** 5 **C.** 10 **D**. 12 **E.** 14

PART II. 0n a board, the number 2025 is written. Every minute, the number on the board is either multiplied by 9, or multiplied by 25, or divided evenly by 15 (that is, if it is divisible by 15)
a) What is the minimum number of minutes that must pass for the number 1 to appear on the board?
b) Can the number 45 ever appear on the board?

PART III.
Fie A_1, A_2,A_3, ..., A_{22} puncte distincte în plan şi dreapta d pe care sunt situate punctele A_1, A_2,...,A_8 , celelalte 14 fiind exterioare dreptei d. Orice dreaptă diferită de d conţine cel mult două puncte dintre cele 22 date.Aflaţi numărul dreptelor determinate de cele 22 puncte.

Gazeta matematică -enunț modificat.

7th November 2025

CLASA a VII-a

Here are some suggestions to help you do your best:

- Read carefully each question and think about the answer before choosing your response.

RULES

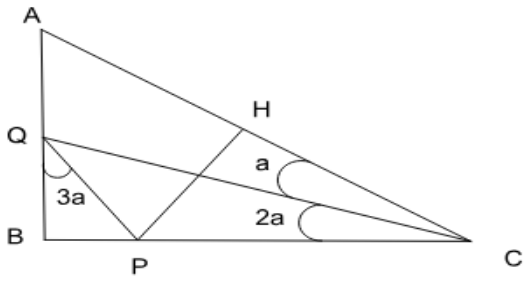
- Part I has four multiple choice exercises.
- Part II must be solved into English.
- Part III must be translated into English, and then solved in English as well.

PART I.

1. Determine the value of the number $n=\sqrt{\frac{6}{5}+\frac{7}{10}+\frac{8}{15}+...+\frac{130}{625}-\left(1+\frac{1}{2}+...+\frac{1}{125}\right)}$.

A. 2 **B**.25 **C.**4 **D.**3 **E.** 5

2. In the adjacent figure, we have ΔABC, $\measuredangle B=90^0$, $\measuredangle BQP=3a$, $\measuredangle PCQ=2a$, $\measuredangle QCH=a$, $QC=2HC$, $PH\perp AC$. Determine the value of a.



A. 12^0 **B.** 10^0 **C.** 11^0 **D.** 20^0 **E.**15^0

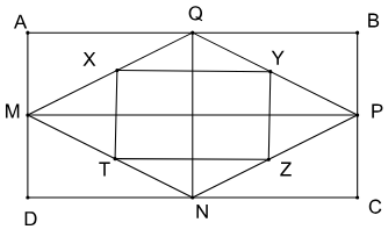
3. The game "Guess the Sum!" is played with 7 playing cards numbered from 1 to 7, which are shuffled and placed face down. Amalia and Dan take turns drawing one card each, with Amalia going first.

After drawing her third card, Amalia says to Dan: "Now I'm sure that the sum of the numbers on your cards is even."

What is the sum of the numbers on Amalia's cards?

A. 6 **B.** 16 **C.** 14 **D.** 12 **E.** 8

4. Ramona drew a rectangle *ABCD* with dimensions of 48 cm and 36 cm. She played by connecting the midpoints of the sides of the rectangle and obtained the parallelogram *MNPQ*. Then she connected the midpoints of its sides,



forming a smaller rectangle *XYZT*. She asked herself: "What is the ratio between the perimeter of rectangle *XYZT* and that of rectangle *ABCD*?"

A. $\frac{1}{4}$ **B.** $\frac{1}{2}$ **C.** $\frac{10}{27}$ **D.** $\frac{5}{16}$ **E.** $\frac{2}{3}$

Part II.

Let $ABCD$ be a parallelogram with $AC \cap BD = \{O\}$ and let points $M \in (AB)$, $N \in (BC)$. Points P and Q are the symmetric points of O with respect to M, and N. Knowing that points P and Q lie on lines AD, and CD, respectively, prove that:

a) O is the centroid of triangle DPQ;
b) $OPBQ$ is a parallelogram;

Gazeta Matematică (enunț modificat)

Part III.

Lucian are în bibliotecă 2025 cărți, fiecare carte având o copertă de culoare albă și o copertă de culoare albastră. Cărțile sunt aranjate cu coperta albă în sus și numerotate în ordine crescătoare de la 1 la 2025. În prima etapă, Lucian le întoarce pe toate cu coperta albastră în sus, în a doua etapă le întoarce cu cealaltă copertă în sus din 2 în 2, începând de la a doua a carte până la cartea de pe poziția 2024. În a treia etapă le întoarce cu cealaltă copertă în sus din 3 în 3 începând de la a treia carte până cartea de poziția 2025. În a 2025 – a etapă întoarce cartea de poziția 2025. După aceste întoarceri câte cărți vor fi cu coperta albastră în sus?

22METS

7th November 2025

CLASA a VIII-a

Here are some suggestions to help you do your best:

- Read carefully each question and think about the answer before choosing your response.

RULES

- Part I has four multiple choice exercises.
- Part II must be solved into English.
- Part III must be translated into English, and then solved in English as well.

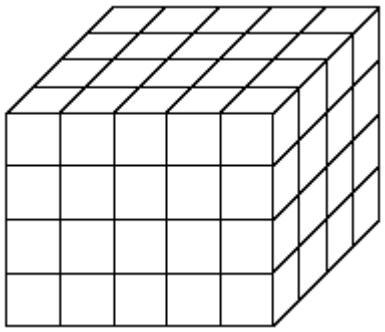
PART I.

1. Find the rational numbers **a** and **b** that verify:

$$\frac{a}{\sqrt{7-2\sqrt{10}}}+\frac{b}{\sqrt{7+2\sqrt{10}}}=2\sqrt{5}-\sqrt{2}$$

A. $a=\frac{3}{2}, b=\frac{9}{2}$ **B.** $a=\frac{7}{2}, b=\frac{3}{2}$ **C.** $a=\frac{9}{2}, b=\frac{3}{2}$ **D.** $a=\frac{3}{2}, b=\frac{7}{2}$ **E.** $a=\frac{3}{2}, b=\frac{7}{2}$.

2. Andrei built a right prism with dimensions of 4 cm, 4 cm, and 5 cm, using red and blue cubes, each with an edge length of 1 cm. The cubes used for the exterior are red, while the cubes used for the interior are blue. How many blue cubes did Andrei use in this construction?

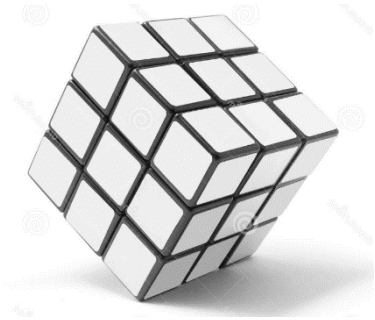


A. 24 **B.** 8 **C.** 36 **D.** 42 **E.** 12

3. The game "Guess the Sum!" is played with 7 playing cards numbered from 1 to 7, which are shuffled and placed face down. Amalia and Dan take turns drawing one card each, with Amalia going first. After drawing her third card, Amalia says to Dan: "Now I'm sure that the sum of the numbers on your cards is even." What is the sum of the numbers on the cards drawn by Amalia?

A. 6. **B.** 16 **C.** 12 **D.** 14 **E.** 8

4. A cube with an edge of 10 centimeters is painted and then cut into 1,000 smaller cubes with an edge of 1 centimeter. What is the number of small cubes that have exactly two painted faces?



A. 76 **B.** 86 **C.** 106 **D.** 96 **E.** 128

Part II.

Determine the natural numbers n for which the first two decimal digits of the number $\sqrt{n^2+2n+2}$ are zeros.

Gazeta Matematică

Part III.

La o petrecere participă mincinoși și sinceri. Mincinoșii mint tot timpul, cei sinceri spun mereu adevărul. Invitații sunt așezați la două mese rotunde.

a. La prima masă stau 30 de persoane. Fiecare dintre ele spune că exact unul din cei doi vecini ai săi este sincer. Câți mincinoși pot fi la prima masă?

b. La masa a doua stau 30 persoane. Fiecare din ele spune că cei doi vecini ai săi sunt mincinoși. Câți mincinoși sunt la a doua masă?