

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 six 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. Greg made the Input-Output table below:

Input	Output
4	12
9	27
6	18
8	24

What rule can be used to find each Output number?

- A** Multiply by 3
 - B** Divide by 3
 - C** Multiply by 4
 - D** Divide by 4
2. The number of people who live in Craiova is three thousand nine hundred and eight. What is another way to write the same number?
 - A** 398
 - B** 3 098
 - C** 3 908
 - D** 3980

3. Which kind of numbers, when multiplied together, have a product that is an odd number?
- A** even X even X even
 - B** even X even X odd
 - C** odd X odd X even
 - D** odd X odd X odd
4. Which is the same as 30 tens?
- A** 3 ones
 - B** 30 ones
 - C** 3 hundreds
 - D** 30 hundreds

PART II.

The Riddler has left a clue for Batman to follow at the scene of each crime. These are the clues that Batman has found:

- (1) There is a 1 in the thousands place.
- (2) The digit in the tens place is 9 times the digit in the thousands place.
- (3) Multiply the digit in the thousands place by 2.
- (4) The digit in the ones place is a hand without a thumb.
- (5) The digit in the hundreds is 2 less than the number in the tens.

Solve the riddle to find the number and help Batman stop the Riddler.

PART III.

Într-o grădină se află 5 meri. Ei sunt plantați pe o alee la 5 m distanță unul de altul. Pe aceeași direcție, la 30 m distanță de primul pom se află o fântână. Un fermier vrea să ude pomii. El trebuie să ude pomii cu 3 găleți cu apă pentru fiecare pom. El poate căra doar două găleți de apă la un transport. Cât merge fermierul de la fântână și înapoi, pentru a uda toți pomii?

CLASA a V-a

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RULES

- Part I has six multiple choice exercises.
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PART I.

1. What mixed number equals $\frac{7}{4}$?

A $4\frac{3}{4}$

B $4\frac{1}{4}$

C $3\frac{1}{4}$

D $1\frac{3}{4}$

2. The list below shows the weights, in kilos, of five different kangaroos: 65, 75, 80, 85, 85.

What is the mean (average) weight, in kilos, of the kangaroos?

A 78

B 80

C 85

D 88

3. What is the greatest common factor (GFC) of 9 and 36?

A 3

B 9

C 18

D 36

4. What is the sum of $(3+3)^2$ and 2^3 ?
- A 18
 - B 20
 - C 26
 - D 44

PART II.

Chris asked Loretta her age and she said:

"My age?" she asked, "you'll have to guess!"

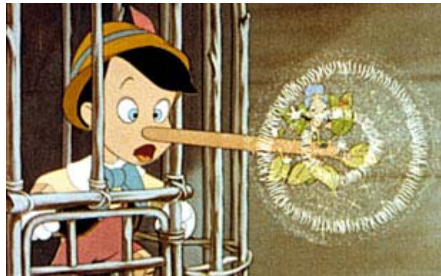
"Just let me think, AH!, that's it: yes!!"

"Reverse my age, divide by three, add thirty-four, my age you'll see!"

How old was Loretta?

PART III.

Gepetto are înălțimea de 180 cm, iar Pinocchio este mai scund ca el. Pinocchio are înălțimea de peste 100 cm și nasul său este de 1,5 cm. După fiecare minciună pe care o spune, nasul se dublează și crește cu încă 1 cm. Câte minciuni a spus Pinocchio dacă nasul său este cât înălțimea sa?



CLASA a VI-a

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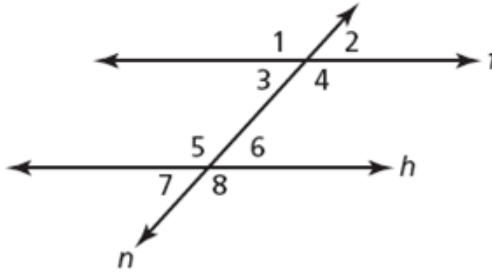
PART I.

1. What value of x makes the proportion below correct?

$$\frac{x}{9} = \frac{9}{27}$$

- A** 1
B 3
C 6
D 9
2. The temperature on a winter night in Craiova is -6°C . The temperature decreases by 8°C . What is the new temperature, in degrees Celsius?
- A** -2°C
B 2°C
C -14°C
D 14°C
3. What is the least common multiple of 9, 18 and 21?
- A** 3
B 81
C 126
D 3402

4. In the diagram below, line f and line h are parallel, and line n is a transversal.

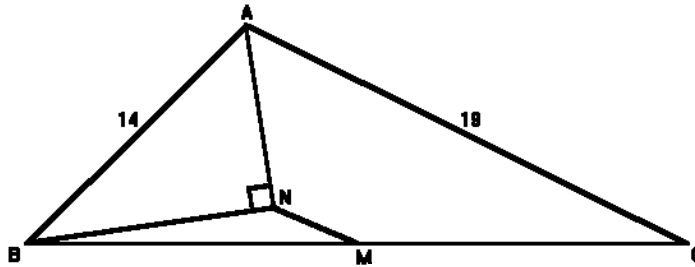


Which term expresses the relationships between $\sphericalangle 1$ and $\sphericalangle 8$?

- A adjacent
- B congruent
- C supplementary
- D complementary

PART II.

In a triangle ABC, M is the midpoint of the side BC, AN bisects angle BAC, BN is perpendicular to AN. Draw the line BN until it meets AC in



E.

- a) Prove that the ABE is an isoscele triangle.
- b) If sides AB and AC have lengths 14 and 19, then what is the length of MN?

PART III.

La concursul 22METS concurenții vor fi plasați câte 15 în fiecare clasă, dar astfel 3 elevi nu vor avea loc. Organizatorii au renunțat la două săli și astfel au fost repartizați toți elevii în mod egal în clasele rămase. Câți elevi vor participa la concurs și câte clase vor fi ocupate dacă la intrarea în școală elevii vor fi așezați pe 9 rânduri complete?

CLASA a VII-a

Here are some suggestions to help you do your best:

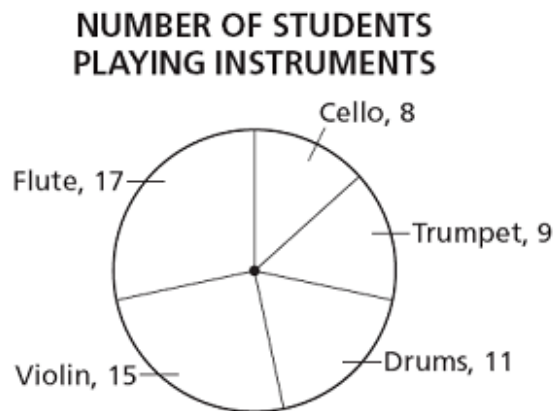
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PART I.

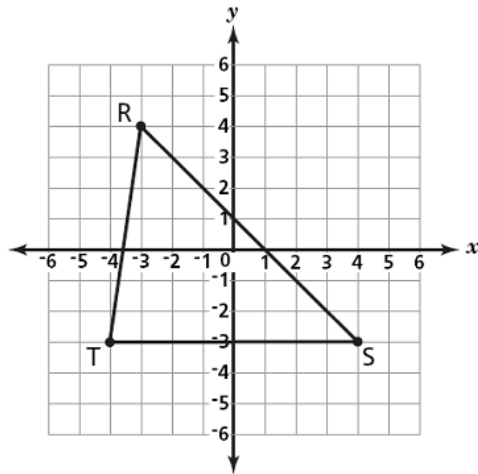
1. The circle graph below shows the number of students who play instruments in the school orchestra.



What percentage of the total number of students in the school orchestra play the violin?

- A** 15%
- B** 25%
- C** 33%
- D** 75%

2. Triangle RST is shown on the coordinate grid below.



What are the coordinates of point T?

- A (-3, -4)
 - B (-3, 4)
 - C (-4, -3)
 - D (-4, 3)
3. Between what two whole numbers is $\sqrt{125}$?
- A 63 and 64
 - B 62 and 63
 - C 12 and 13
 - D 11 and 12
4. Rachel has 5 silver bracelets and 2 gold bracelets in her jewelry box. Rachel randomly picks one bracelet. Which statement **best** describes which bracelet she will probably pick?
- A She probably will pick a gold bracelet
 - B She definitely will pick a gold bracelet
 - C She probably will pick a silver bracelet
 - D She definitely will pick a silver bracelet

PART II.

The rectangle ABCD has $AB = 4$, $BC = 3$. The side AB is divided into 168 equal parts by points P_1, P_2, \dots, P_{167} (in that order with P_1 next to A), and the side BC is divided into 168 equal parts by points $Q_{167}, Q_{166}, \dots, Q_1$ (in that order with Q_1 next to C). The parallel segments $P_1Q_1, P_2Q_2, \dots, P_{167}Q_{167}$ are drawn. Similarly, 167 segments are drawn between AD and DC, and finally the diagonal AC is drawn. Find the sum of the lengths of the 335 parallel segments.

PART III.

Un elev de la Școala Nr.22 „Mircea Eliade” locuiește într-o localitate lângă Craiova. El trebuie să ajungă la școală la ora 13:30. Elevul gândește astfel: dacă autobuzul circulă ca de obicei cu 60km/h, voi ajunge la școală la ora 13:20. Dacă traficul este la fel de aglomerat ca data trecută, autobuzul circulă doar cu 20km/h și o să întârzi 10 minute. Autobuzul a ajuns la ora 13:30. Aflați :

- a) Cu ce viteză a circulat.
- b) Ce distanță avea elevul până la școală.
- c) La ce oră pleacă autobuzul din localitatea lui.

CLASA a VIII-a

Here are some suggestions to help you do your best:

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RULES

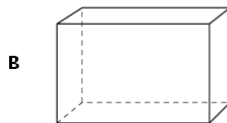
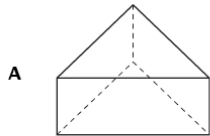
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PART I.

1. The area of one side of the box is 120 cm^2 . The area of another side of the box is 72 cm^2 . The area of the top of the box is 60 cm^2 . What is the volume of the box?

- A** 1200 cm^3
- B** 840 cm^3
- C** 720 cm^3
- D** 600 cm^3

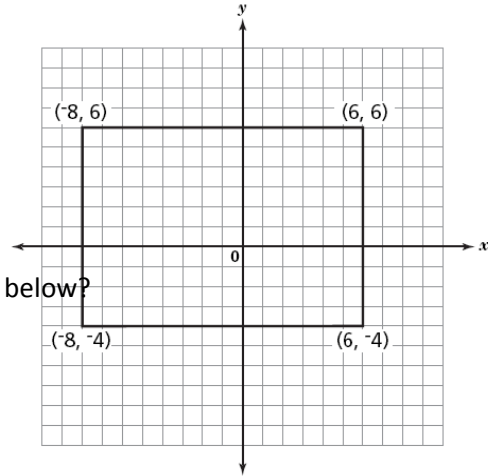
2. All the figures below have at least one rectangular face **except** for which figure?



3. Jamal’s deck is in the shape of a polygon and is shown on the grid below.

What is the area of Jamal’s deck?

- A 28 square units
- B 48 square units
- C 100 square units
- D 140 square units



4. What is the product of the expression below?

$$(2x - 3)(2x - 9)$$

- A $4x^2 + 16x + 15$
- B $4x^2 - 16x - 15$
- C $4x^2 + 16x - 15$
- D $4x^2 - 16x + 15$

PART II.

Prove the identities:

$$(a^2+b^2)(c^2+d^2) = (ac + bd)^2 + (ad-bc)^2$$

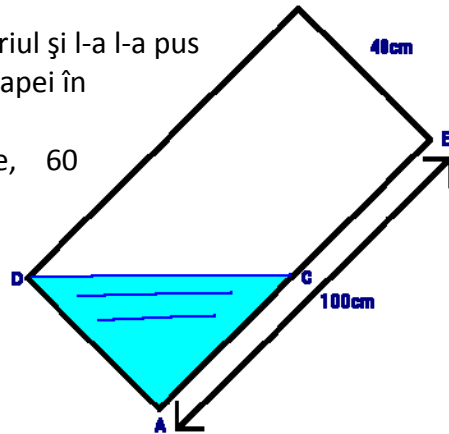
$$(a^2+b^2)(c^2+d^2) = (ac - bd)^2 + (ad+bc)^2$$

Use it to write 481 as the sum of two squares in two different ways.

PART III.

Într-o zi Jane avea grijă de frățiorul ei de 2 ani, Frank. În momentul în care Jane nu era atentă, Frank a luat acvariul și l-a răsturnat într-o parte astfel încât nivelul apei era ca în imaginea de mai jos. (C este mijlocul segmentului AB)

Când Jane l-a găsit ea a înșfăcat repede acvariul și l-a l-a pus la loc, în poziția inițială. Care era adâncimea apei în acvariu după ce acesta a fost pus la loc, dacă dimensiunile acvariului sunt: 100 cm lungime, 60 cm lățime și 40 cm înălțime?



USEFUL WORDS AND EXPRESSIONS

cel mai mare divizor comun	- greatest common divisor, greatest common factor
cel mai mic multiplu comun	- lowest common multiple
coordonată	- coordinate
crește	- to increase
Cifră	- digit
demonstrație	- proof
decrește	- to decrease
distanță	- distance, way
dreaptă	- line
dreptunghi	- rectangle
impar	- odd
înălțime	- height
latură {a unui unghi}	- side {of an angle}
lungime	- length
multiplu comun	- common multiple
ridica la patrat	- to square
sistem de coordonate	- coordinate system
suprafață	- surface
triunghi isoscel	- isosceles triangle
unghi complementar	- complementary angle
unghiuri (adiacente)suplimentare	- (adjacent) supplementary angles
volum	- volume