


Fivret d'énigmes mathématiques

In this ridalle booklet, you will
find all the riddles of the $6^{\text {th }}$ C.L.I.I.
class of the year 2023/2024
(4오 A AO

Aya, Tim, Nathan, Nada, Lisa, Lény, Emy, Zorrs, Mélanie, Aymmric,
Nino, Flarie, Tom, Baptiste, Tiken, Zena, Emmy, Yanis, Louis,
Antoine, Yasmine, Zou, Jade, Folin, Clément, Ramy, Or nella, Bilal.

## ARE YOU GOOD AT MATHS ?



# ARE YOU GOOD AT ENGLISH ? 

THE PUPILS FROM THE $\mathbf{6}^{\text {ème }} \mathbf{1}$

CLIL CLASS HAVE THE PLEASURE TO

SHARE WITH YOU THE MATHS RIDDLES<br>THE Y CREATED DURING THE MATHS<br>AND ENGLISH CLIL CLASS IN 2023 / 2024

## TRY TO SOLVE THEM AND GOOD LUCK !!



## MATHS RIDDLES $n^{\circ} 1$

BARBAGALLO Lisa : $6^{\text {ème }} \mathbf{1}$
ARNAUD Tim : $\mathbf{6}^{\text {ème }} \mathbf{1}$
EASY:

How many right angles can we code in this figure?


## MEDIUM :

We double a number and we substract 4 then we multiply by 3 and we add 9 . The result is 75 .

What is the starting number?

## HARD :

Around the world in $\mathbf{8 0}$ days is a famous work by Jules Verne .

Horse-drawn cart : $\mathbf{5 1 8} \mathbf{4 0 0}$ seconds Hot-air balloon : ?
Boat : $\mathbf{6 1 9 2 0} \mathbf{9 2 0}$ minutes
Train : 29 days


Knowing that this person travels 80 days


How many days will the hot-air balloon travel?

## MATHS RIDDLES $\mathrm{n}^{\circ} \mathbf{2}$

Metivier Louis $\mathbf{6}^{\text {ème }} \mathbf{1}$
Crouzet Loris $\mathbf{6}^{\text {ème }} \mathbf{1}$
*EASY Fill in all the empty boxes in this diagram


## **MEDIUM

There are 613 pupils and 25 classrooms in Marcel Chamontin Secondary School . We know that today 38 people are missing. So, if today we divide all the people in all the classrooms
 how many pupils will there be in each classroom ?

## ***HARD

Calculate the total length of the green and red segments of this drawing knowing that to measure the length of the green segment you must add $1,5 \mathrm{~cm}$ and for the red segment you must multiply by $\mathbf{2 , 5}$ to the shortest segment .


## MATHS RIDDLES $\mathrm{n}^{\circ} \mathbf{3}$

## PARIS PEREIRA Lou $6^{\text {ème }} \mathbf{1}$ AHSEN Aya $\mathbf{6}^{\text {ème }} \mathbf{1}$ <br> EASY:

In a restaurant, there is a terrace . Inside the restaurant there are 20 people and on the terrace there are 10 people, 2 waiters serve on the terrace
 and 3 waiters serve inside the restaurant . 4 people come out of the terrace and go inside the restaurant (because it is cold ).
How many people are there inside and outside?

## MEIDIUM $t$

Draw the symmetric image of the landscape of the house and the two trees in the lake

## HARD



For Halloween, a family decides to make a maze. Find your way to the exit knowing that to go :


* Right you have to divide by two
* 'To the top you have to multiply by two
* Left you need to substract 1,5
* Down you have to add 0,5

| $\mathbf{1 , 2}$ | $\mathbf{3}$ | $\mathbf{0 , 1}$ | $\mathbf{1 , 8}$ | $\mathbf{0 , 9}$ | $\mathbf{1 , 4}$ | $\mathbf{0 , 7}$ | $\mathbf{2 , 5}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{6 0}$ | $\mathbf{2 , 4}$ | $\mathbf{6 5}$ | $\mathbf{0 , 9}$ | $\mathbf{1 , 4}$ | $\mathbf{0 , 7}$ | $\mathbf{1 , 2}$ | $\mathbf{0 , 6}$ | $\mathbf{E X I T}$ |
| $\mathbf{3 2}$ | $\mathbf{1 , 8}$ | $\mathbf{0 , 9}$ | $\mathbf{0 , 4 5}$ | $\mathbf{2 , 5}$ | $\mathbf{1}$ | $\mathbf{1 0 8}$ | $\mathbf{5 0}$ |  |
| $\mathbf{8 4}$ | $\mathbf{0 , 9}$ | $\mathbf{2 , 4}$ | $\mathbf{8 , 5}$ | $\mathbf{1 0}$ | $\mathbf{3 4}$ | $\mathbf{6 , 2}$ | $\mathbf{2 4}$ |  |
| $\mathbf{0 , 6 8}$ | $\mathbf{5 6}$ | $\mathbf{1 , 2}$ | $\mathbf{2 , \boldsymbol { 7 }}$ | $\mathbf{4 , 2}$ | $\mathbf{2}$ | $\mathbf{8 , 8}$ | $\mathbf{2 0 2 4}$ |  |
|  |  |  |  | $\mathbf{E N T E R}$ |  |  |  |  |

## MATHS RIDDLES $n^{\circ} 4$

## NOEL ANTOINE $6^{\text {ème } 1}$

LASSALE-BOIRON EMMY $6{ }^{\text {ème } 1}$
H EASY
HOW MANY TRIANGLES
CAN YOU SEE IN THIS PYRAMID?
( WITHOUT COUNTING
THE HIDDEN FACES )


IN A MEADOW, THERE ARE 10 COWS . THE MILK OF EACH COW GIVES 4 CHEESES . EVERY CHEESE IS CUT INTO 6 PIECES .
ANOTHER FARMER BUYS 3 COWS. THE FARMER WHO HAS 7 COWS NOW WANTS TO RAISE HIS PRODUCTION TO 205 PIECES OF CHEESE EACH DAY .
WILL HE HAVE ENOUGH PIECES OF CHEESE TO REACH HIS GOAL?
AND HOW MANY COWS WILL HE HAVE


TO BUY TO RAISE HIS PRODUCTION TO 205 PIECES OF CHEESE ?


IN A HOTEL, THERE ARE 372 BEDROOMS AMONG WHICH 48 ARE SUITES .

EACH BEDROOM HAS
2 SHEETS AND 1 DUVET COVER .
EACH SUITE HAS
3 SHEETS AND 1 DUVET COVER .


IF 1 SHEET COSTS 3 \$ TO BE CLEANED AND EACH DUVET COVER COSTS 5 \$ TO BE CLEANED, HOW MUCH DOES THE MANAGER OF THE HOTEL HAVE TO PAY EVERY DAY FOR THE CLEANING OF THE SHEETS AND DUVET COVERS ALTOGETHER?

## MATHS RIDDLES $\mathrm{n}^{\circ} 5$

## RAMOS CLEMENT $6^{\text {ème }} \mathbf{1}$ DEPAULE AYMERIC $6{ }^{\text {ème }} \mathbf{1}$

## EASY:

Mathieu runs every morning for thirty minutes except for on days when he has school when he runs for fifteen minutes .
He goes to school on Monday, Tuesday, Thursday and Friday .

How many hours will he have run in two weeks?


## AVERAGE :

Miss Pistouille baked one hundred and seven cookies .
She invited the neighbours to come for tea time .
They ate nine cookies.
The cat stole one cookie, the grand-mother baked eleven other cookies and brought them for tea . Miss Pistouille wants to share what is left into equal parts between her four children .


How many cookies will each child have. Will there be any cookies left ?

## HARD :

You can see five squares :


You have to move three matchsticks to get four squares .

## MATHS RIDDLES $\mathrm{n}^{\circ} 6$

## TIKEN KAMARA $\boldsymbol{6}^{\text {ème }} \mathbf{1}$ <br> ORNELLA SORIANO $\boldsymbol{6}^{\text {ème }} \mathbf{1}$

EASY *:
Benjamin cooks 6 chops, his dog eats
half of them and his brother eats
1 \3 of what's left.
How many chops are left ?


## AVERAGE**。

A child plays with wooden solids on a carpet, he drops 1 pyramid, 2 squares and 1 rectangular prism .
His sister, who is passing by , has fun counting the edges.

How many edges are in total ?


## DIFFICULT***:

In a college in Cambrigde, there are 657 students, $2 \backslash 3$ of the students eat at the canteen. The meal costs $\mathbf{3}$ £ for each half-boarder .
$1 \backslash 6$ of the students who eat at the canteen also have lunch at the canteen on Wednesdays for the sport club, their meal costs $2 £$.
On Monday, Tuesday, Thursday and Friday , there are 108 absents among which $\mathbf{1} \backslash \mathbf{4}$ of the students who are half-boarders .

Calculate the total amount paid be the students this week for the canteen ?


## MATHS RIDDLES $\mathrm{n}^{\circ} 7$

## FICHEFEUX BRITO NINO $6^{\text {ème }} 1$

DENY MAIIYA MELANIE $\mathbf{6}^{\text {ème }} \mathbf{1}$

## EASY <br> 

Three pupils Chloé, James and Jonathan made three patterns of solids . Which pupil did not make a pattern for a cube ?

Chloé
James


Jonathan


MEDIUM 15


A person goes to a paint ball place . There are two possible options .
The first one has 40 balls allowing you to play for 25 minutes.
The second one has 21 balls every 15 min . Which one of these two options allows
 to have the maximum number of balls for the same duration?

## HARD



Zushia and her family go on a trip to Hawaiii . They leave the airport of Paris at 13.50 . They arrive at Hawaïi at 12.50 ( local hour ) on the next day. We know that Paris is $\mathbf{1 1}$ hours ahead from Hawaï .
A) What time will the airplane ( French hour ) land in Hawaïi ?
B) How long did the trip last ?


## MATHS RIDDLES $n^{\circ} 8$

## Batiste Humeau $\mathbf{6}^{\text {ème }} \mathbf{1}$

 Jade Perbet $\mathbf{6}^{\text {ème }} \mathbf{1}$
## Easy*

Find the hidden message knowing that you must substact

| $\mathrm{A} \rightarrow 1$ | $\mathrm{~B} \rightarrow 2$ | $\mathrm{C} \rightarrow 3$ | $\mathrm{D} \rightarrow 4$ | $\mathrm{E} \rightarrow 5$ |
| :--- | :--- | :--- | :--- | :--- |
| $\mathrm{~F} \rightarrow 6$ | $\mathrm{G} \rightarrow 7$ | $\mathrm{H} \rightarrow 8$ | $\mathrm{I} \rightarrow 9$ | $\mathrm{~J} \rightarrow 10$ |
| $\mathrm{~K} \rightarrow 11$ | $\mathrm{~L} \rightarrow 12$ | $\mathrm{M} \rightarrow 13$ | $\mathrm{~N} \rightarrow 14$ | $\mathrm{O} \rightarrow 15$ |
| $\mathrm{P} \rightarrow 16$ | $\mathrm{Q} \rightarrow 17$ | $\mathrm{R} \rightarrow 18$ | $\mathrm{~S} \rightarrow 19$ | $\mathrm{~T} \rightarrow 20$ |
| $\mathrm{U} \rightarrow 21$ | $\mathrm{~V} \rightarrow 22$ | $\mathrm{~W} \rightarrow 23$ | $\mathrm{X} \rightarrow 24$ | $\mathrm{Y} \rightarrow 25$ |
| $\mathrm{Z} \rightarrow 26$ |  |  |  |  |

3 to each of the following numbers :

$$
13 \text { / } 24 \text { / } 15 \text { / } 12 \text { / } 24 \text { / } 226 \text { / } 4 \text { / } 8 \text { / } 22 \text { / } 4 \text { / } 21
$$

## Medium **

Colour in the minimum number of boxes in order to get a symmetrical figure on each side of the line

## Hard * * *

We consider the following figure (4) How many vertex are there ? (2) How many faces are there ?

AIt could be necessary to take into account the hidden parts


## MATHS RIDDLES $\mathbf{n}^{\circ} 9$

## COUSIN EMY $6^{\text {ème }} \mathbf{1}$ ROBIN PHILIPPE $\mathbf{6}^{\text {ème }} \mathbf{1}$

## EASY

You are playing fortnite and you are level 43 ( 1 level equals 80000 EXP)
At the end of your game your are level 46 Have many EXP did you win in your game?


## MEDIUM : **

In a farm there are 85 cows .
In January two lorries full of cows came . (in the lorry there are $\mathbf{2 6}$ cows ).
11 cows were sold to another farmer .
The farmer wants to have the same number of cows in each of his two fields.

How many cows will there be in each field ?

## HARD:



|  | QUANTITY | UNIT PRICE | TOTAL |
| :---: | :---: | :---: | :---: |
| CAP | 84 | ......... | 756 € |
| SHOES | ......... | 48 € | 288 € |
| SHIRT | 21 | .......... | 273 € |
| TRACKSUIT | .......... | 35 € | .......... |
| PAIRS OF SOCKS | .......... | $4 €$ | 72 € |
|  |  | TOTAL | $1634 €$ |

Fill in the grid above

## MATHS RIDDLES $\mathrm{n}^{\circ} \mathbf{1 0}$

## Yanis Maache $6^{\text {ème }} 1$

Flavie Garcia $\mathbf{6}^{\text {ème }} \mathbf{1}$


A woman goes to the supermarket . She buys 2 big apples which cost $1 \$$ each, 3 bottles of fruit juice which cost $3 \$$ each , 5 pens which cost $2 \$$ each .


Will she have enough money if she pays with a $20 \$$ note?


1) Put the letter $E$ at 2,6
2) Put the letter $T$ at 4,8
3) Put the letter $R$ at 1,7
4) Put the letter A at 3,5

Q1 : Which letter is missing to find a famous english word?
Q2 : Put the missing letter on the graduation, knowing that it is the sixth of the sum of 4 and 2 .


You must use only once each of the following figures: $5,9,3,8$ and only once each of the 4 following operations : $+,-, \times, \div$

Write the calculations to get 7 .


## MATHS RIDDLES ${ }^{\circ} 11$

## NADA BAADI $6^{\text {ème }} \mathbf{1}$ <br> LENYBUE $6^{\text {ème }} \boldsymbol{1}$

## Easy: Tr

Complete this operation :
789
X 36

$$
\frac{+2_{-}^{4} \overline{6}_{-}^{-4}}{+2_{-}^{4}}
$$

## Medium :



Bilal buys 9 goldfish .
He puts them into an aquarium but 3 died of old age, a cat ate 2 of them and 1 jumped out the aquarium . Bilal decides to buy the double number of the dead fish . How many goldfish will there be in the aquarium?

Hard:


For his birthday, Tom buys 2 bags of dragibus each containing 25 dragibus, 3 little bags of crocodiles each containing 7 crocodiles and 1 big bag of 24 schtroumpfs . Knowing that, Tom invites 6 friends : each friend eats the same quantity of sweets and Tom gives the smallest number of sweets to his little sister Anna .

How many sweets will the 6 friends have each and how many sweets will Anna have?


## MATHS RIDDLES ${ }^{\circ}{ }^{0} 12$

Gottschalk Tom $\mathbf{6}^{\text {ème }} \mathbf{1}$
Kentaoui Lena $\mathbf{6}^{\text {ème }} \mathbf{1}$

EASY Bob bought three packets of candy . In each packet there are 15 candies . But Bob is greedy so he eats 3 candies from the first packet.
Then the double from the second packet and the triple from the 3 rd packet .


How many candies are there left in each packet ?

## MEDIUM

On a beach there are 64 people .
The quarter of these people have 2 sunshades each, and the others have only one sunshade.

How many sunshades are there on the beach ?


## HARD

We choose a whole number After we add 3 to the result After we divide the result by a whole number We subtract 4 to the result After we multiply the result by a whole number
 to finish we add 2

Knowing that the starting number and the final number is 7 Find the missing numbers in this sequence of calculation?

## MATHS RIDDLES ${ }^{\circ} 13$

ROMY RIBET $6^{\text {ème }} \mathbf{1}$
BILAL SOUSSI $\mathbf{6}^{\text {ème }} \mathbf{1}$


A runner runs for one hour .
In 30 minutes he runs 6 kilometers .


How long does it take him to run 200 meters knowing that he runs at the same speed all the time?

## MEDIUM



Manon has 5 pens more than Lucy .
Lucy has twice as many pens as Anna .
Mia has 3 pens less than Manon and she has 6 pens . How many pens does each child have?

## HARD



Fill in the dots so that the division is right .


## MATHS RIDDLES n ${ }^{0} 14$

## AYME NATHAN $\mathbf{6}^{\text {ème }} \mathbf{1}$ <br> OU-AANKOUR YASMINE $6^{\text {ème }} \mathbf{1}$ <br> EASY:

My brother comes home with 4 identical chocolate bars .
While we talk I eat 1 half of one bar and he eats another bar
( 1 bar measures $\mathbf{6 ~ c m ~ ) ~}$


If we join all the remaining bars, how long will it be?

## MEDIUM :

Lena wants to make her dining room bigger .
Knowing that she gets paid $2500 £$ per month and she has to use $5451 £$ from her bank account and she needs another 10549 £ to finance the whole construction

1) How much does the construction cost?

2) How many months does she have to work for?

## HARD :

In a store 7 identical bottles of shampoo cost $21 £$ and 5 shower gel cost $10 £$.
Knowing that one of the customers has a VIP pass which allows him to get $\mathbf{2 5} \%$ off any products .

How much will he have to spend if he buys
 3 shower gel and 4 bottles of shampoo ?

## ANSWER KEY RIDDLE $\mathbf{n}^{\circ} \mathbf{1}$

EASY: 14 right angles
because 4 orange +10 blue

$$
=14 \text { right angles }
$$

MEDIUM : 13 is the starting number
because $13 \times 2=26$ and $26-4=22$
then $22 \times 3=66$ and $66+9=75$
In fact, if we calculate backwards,
 we get again 13 :

$$
\mathbf{7 5} \xrightarrow{-9} 75-9=66 \xrightarrow{\div 3} 66 \div 3=22 \xrightarrow{+4} 22+4=26 \xrightarrow{\div 2} 26 \div 2=1 \mathbf{1 3}
$$

HARD : the hot-air balloon will travel for 2 days
because $\underline{6}+\underline{43}+\underline{29}=78$ days and 78 days +2 days $=80$ days
Horse-drawn cart : $\mathbf{5 1 8} \mathbf{4 0 0} \mathbf{s}=518 \mathbf{4 0 0}$ s: $\mathbf{3 6 0 0} \mathrm{s}=144$ hours
$144 \mathrm{~h}: \mathbf{2 4} \mathrm{h}=\underline{\mathbf{6} \text { days }}$
Hot-air balloon : 2 days
Boat : $\mathbf{6 1 9 2 0} \mathbf{9 2 n}$ minutes = $\mathbf{6 1 9 2 0} \mathbf{~ m i n}$ : $\mathbf{6 0} \mathbf{~ m i n}=\mathbf{1} \mathbf{0 3 2}$ hours
$1032 \mathrm{~h}: \mathbf{2 4} \mathrm{h}=\underline{43 \text { days }}$
Train: 29 days

## ANSWER KEY RIDDLE ${ }^{\circ} 2$

EASY:
MEDIUM : There are 23 pupils ${ }_{x}$ in each classroom 100
because $613-38=575$
and 575:25 $=23$ pupils


HARD :
in Green
small segment
Average segment
Large segment
4

$$
\begin{array}{cc}
5,5 & (4+1,5) \\
7 & (5,5+1,5)
\end{array}
$$

in Red

Total : $4+5,5+7=\mathbf{1 6 , 5} \mathrm{cm}$ and $1,6+4+10=\mathbf{1 5 , 6} \mathrm{cm}$
Total length : $16,5+15,6=\mathbf{3 2 , 1} \mathbf{~ c m}$

## ANSWER KEY RIDDLE $n^{\circ} 3$

## EASY

Outside : There are 10 people on the terrace and 2 people serve on the terrace, so $10+2=12$ people are on the terrace But 4 people went into the restaurant ( it is cold ) so $12-4=8$ people are on the terrace :

Inside : Since there are 20 people inside the restaurant and since 3 people serve inside the restaurant, $20+3=23$ people are inside the restaurant. But 4 people went into the restaurant (cold ) so $23+4=\mathbf{2 7}$ people are inside the restaurant :

## MEDIUM :

The answer is to draw the symmetric image of of the house and the two trees in the lake


## HARD :

| $\mathbf{1 , 2}$ | $\mathbf{3}$ | $\mathbf{0 , 1}$ | $\mathbf{1 , 8}$ | $\mathbf{0 , 9}$ | $\mathbf{1 , 4}$ | $\mathbf{0 , 7}$ | $\mathbf{2 , 5}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{6 0}$ | $\mathbf{2 , 4}$ | $\mathbf{6 5}$ | $\mathbf{0 , 9}$ | $\mathbf{1 , 4}$ | $\mathbf{0 , 7}$ | $\mathbf{1 , 2}$ | $\mathbf{0 , 6}$ |  |
| $\mathbf{3 2}$ | $\mathbf{1 , 8}$ | $\mathbf{0}, 9$ | $\mathbf{0 , 4 5}$ | $\mathbf{2 , 5}$ | $\mathbf{1}$ | $\mathbf{1 0 8}$ | $\mathbf{5 0}$ |  |
| $\mathbf{8 4}$ | $\mathbf{0 , 9}$ | $\mathbf{2 , 4}$ | $\mathbf{8 , 5}$ | $\mathbf{1 0}$ | $\mathbf{3 4}$ | $\mathbf{6 , 2}$ | $\mathbf{2 4}$ |  |
| $\mathbf{0 , 6 8}$ | $\mathbf{5 6}$ | $\mathbf{1 , 2}$ | $\mathbf{2 , 7}$ | $\mathbf{4 , 2}$ | $\mathbf{2}$ | $\mathbf{8 , 8}$ | $\mathbf{2 0 2 4}$ |  |
|  |  |  |  | ENTER |  |  |  |  |

## ANSWER KEY RIDDLE ${ }^{\circ} 4$

EASY: 20 TRIANGLES : 9 on the left face and 11 on the right face ( without counting the hidden faces)
MIEDIUM: He must buy 2 cows to raise his production
Each cow gives $4 \times 6=24$ pieces of cheese . The farmer who has $\mathbf{7}$ cows makes $7 \times 24=168$ pieces of cheese .
But it is not enough because he wants 205 pieces of cheese .
He needs $205-168=\mathbf{3 7}$ pieces of cheese therefore
he must buy 2 cows to raise his production and
he will have $168+2 \times 24=168+48=216$ pieces of cheese
HARD : Total cleaning cost paid by the hotel per day is $\mathbf{4 2 3 6}$ \$
Number of non suites : 372-48=324 non suite
Number of sheets and duvet covers for the non suites :
$\mathbf{3 2 4} \mathbf{X} 2$ sheets $=\underline{648}$ sheets / 324 X 1 duvet = $\underline{\mathbf{3 2 4}}$ duvet covers
Number of sheets and duvet covers for the 48 suites :
$48 \times 3$ sheets $=\underline{144}$ sheets $/ 48 \times 1$ duvet $=\underline{48}$ duvet covers
Total number of sheets and duvet covers in this hotel :
$\underline{\mathbf{6 4 8}}+\underline{\mathbf{1 4 4}}=\mathbf{7 9 2}$ sheets $/ \underline{\mathbf{3 2 4}}+\underline{\mathbf{4 8}}=372$ duvet covers
total amount paid for the sheets ( cost $\mathbf{3} \$$ ) : 792 $\times 3 \$=\underline{276} \$$
total amount paid for the duvet covers ( cost $5 \$$ ) : $372 \times 5 \$=\underline{1860} \$$
Total cost : $\mathbf{2} \mathbf{3 7 6} \$+\mathbf{1 8 6 0} \$=\mathbf{4 2 3 6}$ \$

## ANSWER KEY RIDDLE $n^{\circ} 5$

EASY: You must calculate how many times he runs a day when he does not go to school : 3 (days) X 30 ( min ) $=90 \mathrm{~min}$
You must calculate how many times he runs on the days when has school :
4 (days) X $15(\mathrm{~min})=60 \mathrm{~min}$. For one week : $90 \mathrm{~min}+60 \mathrm{~min}=150$ minutes
The result for two weeks : 150 min X 2 weeks $=300$ minutes

$$
=5 \mathrm{X} 60 \mathrm{~min}=\mathbf{5} \text { hours }
$$

## MEDIUM :

You must calculate the total number of cookies :
$107-9-1+11=98-1+11=97+11=108$ cookies
The part of each of the four children :
108: $4=\mathbf{2 7}$ cookies each and there are no cookies left


## ANSWER KEY RIDDLE ${ }^{\circ} \mathbf{6}$

EASY*: There remains 2 chops because the dog eats $\mathbf{6}: \mathbf{2}=\underline{\mathbf{3}}$ chops
There remains $6-3=3$ chops .
His brother eats $1 / 3$ of 3 chops so $3: 3=\underline{1}$ chop .
Finally there remains $6-(\underline{3}+\underline{1})=6-4=2$ chops
AVERAGE**: There are 44 edges
1 pyramid has $4+4=\underline{8}$ edges
1 square has $4+4+4=4 \times 3=12$ edges
So 2 squares have $2 \times 12=\underline{\mathbf{2 4}}$ edges
1 rectangular prism has $4 \times 3=\underline{12}$ edges
In total there are $\underline{8}+\underline{\mathbf{2}} \underline{+12}=\mathbf{3 2}+12=44$ edges


DIFFICULT***: Total amount paid by the students this week is $1379 £$
Number of half-boarders : 657:3=219 and 219 X $2=438$
Number of half-boarders eating on Wednesdays : 438:6=73
Number of half-boarders absent : 108: $4=27$
total amount (meal costs $2 £$ on Wednesdays ): 73 $\times 2 £=\underline{146} £$
total amount (meal costs 3 £) : ( $438-27$ ) X 3 $=411 \times 3=\underline{1233} £$
Total amount : $\mathbf{1 4 6} £+\mathbf{1 2 3 3} £=1379$ £

## ANSWER KEY RIDDLE $n^{\circ} 7$

EASY: The wrong pattern is Jonathan's (3)
Because if we fol dit it's not a cube
MEDIUM : The best option is the 1st one, if we take 5 minutes for the first one we have $\underline{8}$ balls and for the $2^{\text {nd }}$ one we have $\underline{7}$ balls
The first one : 40 balls to play 25 minutes dividing by 5 we get :
40:5=8 balls to play 25:5=5 minutes
The $2^{\text {nd }}$ one : 21 balls to play 15 minutes dividing by 3 we get : 21:3=1 balls to play 15:3=5 minutes

HARD : A) At 23.50 pm on the next day because 12:50+11:00=23:50
B) It lasts 34 hours because between 13:50 ( French hour ) and 24 :00 pm there are $\mathbf{1 0 h 1 0}$ because $\mathbf{2 4} \mathrm{h}-\mathbf{1 3} \mathrm{h} 50=11 \mathrm{~h}-\mathbf{0 h} \mathbf{5 0}=\mathbf{1 0} \mathrm{h} \mathbf{1 0}$.
As the plane lands on the next day at $23: 50 \mathrm{pm}$ ( French hour) we need to calculate :
$\mathbf{1 0} \mathbf{h} \mathbf{1 0}+\mathbf{2 3} \mathbf{h} \mathbf{5 0}=\mathbf{3 3} \mathbf{h} \mathbf{6 0}=\mathbf{3 3 h}+\mathbf{1 h}=\mathbf{3 4}$ hours

## ANSWER KEY RIDDLE ${ }^{\circ} 8$

Easy* The answer is Julius Caesar 13 / 24 / 15 / 12 / 24 / 22 6/4/8/22/4/21
Substraction by 3 , we get :
10 / 21 / 12 / 9 / 21 / 19
$3 / 1 / 5 /$
19/1/18 $\begin{array}{lllllllllll}J & U & I & U & S & C & A & E & S & A & R\end{array}$

## Medium **

## Hard $^{* * *}$

There are 16 vertices ( $4 \times 4=16$ )
There are 10 faces
(Views front:1/behind:1
left : 2 / right: 2
top : 2 / bottom : 2 )


## ANSWER KEY RIDDLE $n^{\circ} 9$

EaSy: At the end of your game you win $46-43=3$ levels So you won in your game : $3 \times 80000=\underline{240000} \mathbf{~ E X P}$ Medium : two lorries full of 26 cows : $2 \times 26=52$ cows total number of cows : $85+52-11=137-11=126=$ cows Total number of cows in each of the two fields : $126: 2=\underline{63}$ cows

## Hard :

|  | QUANTITY | UNIT PRICE | TOTAL |
| :---: | :---: | :---: | :---: |
| CAP | 84 | $9 €$ | $756 €$ |
| SHOES | 6 | 48 € | 288 € |
| SHIRT | 21 | 13 € | 273 € |
| TRACKSUIT | 7 | $35 €$ | $245 €$ |
| PAIRS OF SOCKS | 18 | $4 €$ | 72 € |
|  |  | TOTAL | $1634 €$ |

## ANSWER KEY RIDDLE $\mathbf{n}^{\circ} 10$

EASY:
No, she needs another dollar because
Apples: 2X1\$=2\$
Fruit juice: $\mathbf{3 \times 3 \$ = 9 \$}$
Pens: $5 \mathrm{X} 2 \$=10 \$$
Cost $: 2 \$+9 \$+10 \$=21 \$$ bigger than $20 \$$ (difference $1 \$$ )

## MEDIUM :



R1 : It's the letter G and the famous word is GREAT.
R2: $4+2=6$ and $6: 6=1 \quad$ Put the letter $G$ at 1

## HARD :

$5 \times 9=45$ and $45 \div 3=15$ then $15-8=7$

## ANSWER KEY RIDDLE nº 11

X 36

## Easy :

4734
23670

Total Number of fish still in the aquarium :
$=28404$
$9-3-2-1=6-2-1=4-1=\underline{3}$ goldfish
As 3 goldfish died of old age and a cat ate 2 we know that
$3+2=5$ dead goldfish so bilal buys the double : 5 fish $\times 2=\underline{10}$
New total Number of fish in the aquarium : $\underline{\mathbf{3}}+\underline{\mathbf{1 0}}=\mathbf{1 3}$ goldfish

## Harrd: The 6 friends will have 15 sweets each and the little sister Anna will have 5 sweets

Total Number of dragibus : $\mathbf{2 5}$ dragibus $\mathrm{X} 2=\underline{\mathbf{5 0}}$ dragibus
Total Number of crocodiles : 7 crocodiles $X 3=\underline{21}$ crocodiles
Total Number of schtroumpfs : 24 schtr X $1=\underline{\mathbf{2 4}}$ schtroumpfs
Total Number of sweets: $50+\mathbf{2 1}+\mathbf{2 4}=\mathbf{7 1}+\mathbf{2 4}=\mathbf{9 5}$ sweets
The division of 95 by 6 gives the quotient : $\underline{15}$ and the remains is $\underline{5}$

EASY
$1{ }^{\text {st }}$ packet : $15-3=\mathbf{1 2}$ candies
$2^{\text {nd }}$ packet: $2 \times 3=6$ and $15-6=\mathbf{9}$ candies
$3^{\text {rd }}$ packet $: 3 \times 3=9$ and $15-9=\mathbf{6}$ candies

## MEDIUM: There are $\mathbf{8 0}$ beach sunshades

On a beach there are 64 people .
The quarter of 64 people is : $64 / 4=16$ people who have 2 sunshades each it means that we have $16 \times 2=\underline{32}$ sunshades
It remains 48 people ( $64-16=48$ ) who have only one sunshade so we have 48 sunshades.
Finally we have $\underline{32}+\underline{48}=80$ sunshades .
HARD: $7+3=10$ divided by 2 equals $10: 2=5$

$$
5-4=1 \text { multiplied by } 5 \text { equals } 1 \times 5=5
$$

$5+2=7!$

## ANSWER KEY RIDDLE $n^{\circ} 13$

## EASY: 1 minute

In 30 minutes he runs $\mathbf{6}$ kilometers so in 5 minutes he runs 1 kilometer it means that in $\mathbf{5}$ minutes he runs $\mathbf{1 0 0 0}$ meters so in $\mathbf{1}$ minute he runs 200 meters

## MEDIUM : Mia has 6 pens

Manon has 9 pens
because Mia has 3 pens less than Manon ( $6=9-3$ )

## Lucy has 4 pens

because Manon has 5 pens more than Lucy ( $9=4+5$ )
Anna has 2 pens because Lucy has twice as many pens as Anna ( $4=2$ X 2 )


## ANSWER KEY RIDDLE ${ }^{\circ} 14$

## EASY:

Number of remaining bars : $4-0,5-1=3,5-1=2,5$ bars
Length of the remaining bars : $2,5 \times 6 \mathrm{~cm}=\mathbf{1 5}$ centimeters

## MEDIUM :

1) $10549 \mathfrak{f}+5451 \mathfrak{f}=\mathbf{1 6 0 0 0} \mathfrak{f}$
2) $16000 \$: 2500 \$=6,4$ months so 7 months

## HARD :

5 shower gel cost $10 £$ so and 1 shower gel costs $10: 5=2 £$.
As 1 shower gel costs $2 £$ so 3 shower gel cost 3 X $2 £=\underline{6 £}$
7 identical bottles of shampoo cost $21 £$
so 1 bottle of shampoo costs $21: 7=3 £$
so 4 bottle of shampoo cost $4 \times 3 £=\underline{12 £}$
whitout any reduction the price would have been $\underline{6 £}+\underline{12 £}=18 £$ with the VIP pass we pay $25 \%$ less than the initial price that means a reduction of : $18 £: 4=4,5 £$

The final price is : $18 £-4,5 £=\mathbf{1 3}, \mathbf{5} £$

$$
\begin{gathered}
\text { MATHS } \\
\text { LANO } \\
\text { RO } \\
\text { B RIDOL } \\
\text { MATHS }
\end{gathered}
$$



