# Maths and Mystery 

## Maths Mystery at school



Thirteen-years-old Kathleen is a straight-A-student at the East Side Middle school. She's a excellent at Maths and runs the school newspaper.

Yesterday she was at school in late afternoon because she had to write a newspaper article. Suddenly she saw a black shadow climbing out her principal window, carrying a big blue folder. It ran through the garden and got into the Maths department. She had no doubt: the thief was stealing sensitive data. This was terrible!

She looked all around to find some clues: only the hardworking Maths teachers were in school at that time. So one of them must be the thief!

Her determination to get to the bottom and catch the data thief has no bounds.

Your task, should you choose to accept it, is to help Kathleen to find the thief. Are you ready?

Look out data thief! Here we come!


## Possible thief suspects:

| Name | Surname | Sex | Hair | Right /left <br> handed | Driver | Hat | Guilty? |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Tom | Perkins | M | Brown | R | NO | YES |  |
| Sara | Brown | F | Dark | L | YES | NO |  |
| James | Bren | M | Red | L | YES | NO |  |
| Charlott | Twiddle | F | Red | R | YES | YES |  |
| Jack | Turnip | M | Fair | R | NO | NO |  |
| Helen | Garner | F | Brown | L | YES | YES |  |
| Jim | Begler | M | Dark | L | NO | YES |  |
| Fiona | Walters | F | Fair | R | NO | NO |  |
| Becky | Sands | F | Dark | R | NO | NO |  |
| lan | Walters | M | Dark | R | YES | YES |  |
| Ruth | Adams | F | Red | R | YES | YES |  |
| Eva | Kant | F | Dark | R | NO | YES |  |
| Mark | Riddle | M | Fair | L | YES | NO |  |
| Sam | Spret | M | Brown | R | YES | NO |  |
| Harry | Pitcher | M | Dark | R | NO | YES |  |

## Clue number 1: Get into shapes

Solve the clue and get informations about the hair of the thief

The answer to each question is a number. The number needs to be changed into a letter from the alphabet. $A=1, B=2$ etc


## Clue <br> Number Corresponding

 letterNumbers of sides of a square
The sides of three triangles minus the sides of two squares

Number of sides of six triangles
Total numbers of vertices of an octagon and a triangle

Number of sides of two rectangles
The difference between the number of sides of a pentagon and of a square
Total sides of three triangles
Total sides of an octagon and a decagon

## Clue number 2:

Solve the clue and discover if the thief is left or right handed.

Solve the operations. The result of each operation is number. The number needs to be changed into a letter from the
 alphabet. $A=1, B=2$ etc.

|  | Clue | Number |
| :--- | :--- | :--- |
| Corresponding |  |  |
| letter |  |  |$|$

## Clue number 3:

Solve this dating game and get informations about the thief wore.

The answer to each question is number. The number needs to
 be changed into a letter from the alphabet. $A=1, B=2$ etc.

## Calendar of year 2019 (United Kingdom)

| January |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Mo Tu | We | Th | Fr | Sa | Su |  |
|  | 1 | 2 | 3 | 4 | 5 | 6 |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 28 | 29 | 30 | 31 |  |  |  |
| $6: \bigcirc$ | $14: 0$ | $21: O$ | $27: ©$ |  |  |  |


| April |  |  |  |
| :---: | :---: | :---: | :---: |
| Mo Tu We Th Fr Sa Su |  |  |  |
|  | 23 | 45 | 56 |
|  | 910 | 1112 | 1213 |
|  | 1617 | 1819 | 1920 |
|  | 2324 | 2526 | 2627 |
| 29 |  |  |  |
|  | - 12:0 | 19:0 | O 26 |


| July |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Mo Tu | We | Th | Fr | Sa | Su |  |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | 31 |  |  |  |  |
| $2: 0$ | $9: ©$ | $16: O$ | $25: ©$ |  |  |  |


| October | November |
| :---: | :---: |
| Mo Tu We Th Fr Sa Su | Mo Tu We Th Fr Sa Su |
| $\begin{array}{lllllll}1 & 2 & 3 & 4 & 5 & 6\end{array}$ | 123 |
| $\begin{array}{llllllll}7 & 8 & 9 & 10 & 11 & 12 & 13\end{array}$ | $\begin{array}{lllllll}4 & 5 & 6 & 7 & 8 & 9 & 10\end{array}$ |
| $\begin{array}{lllllllll}14 & 15 & 16 & 17 & 18 & 19 & 20\end{array}$ | $\begin{array}{llllllll}11 & 12 & 13 & 14 & 15 & 16 & 17\end{array}$ |
|  | $\begin{array}{llllllll}18 & 19 & 20 & 21 & 22 & 23 & 24\end{array}$ |
| 28293031 | $\begin{array}{lllllll}25 & 26 & 27 & 28 & 29 & 30\end{array}$ |
| 5:(13:O 21:ه 28: | 4:() 12:O 19:O 26: |

February
Mo Tu We Th Fr Sa Su

|  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 25 | 26 | 27 | 28 |  |  |  |
| $4:$ | $12: ©$ | $19: O$ | $26:$ |  |  |  |

## May

Mo Tu We Th Fr Sa Su

|  |  | 1 | 2 | 3 | 4 | 5 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 27 | 28 | 29 | 30 | 31 |  |  |
| $4: \bullet$ | $12:$ | $18: 0$ | $26: \oplus$ |  |  |  |




## June

Mo Tu We Th Fr Sa Su
$\begin{array}{lllllll}3 & 4 & 5 & 6 & 7 & 8 & 9\end{array}$
$\begin{array}{lllllll}10 & 11 & 12 & 13 & 14 & 15 & 16\end{array}$
$\begin{array}{llllll}17 & 18 & 19 & 20 & 21 & 22 \\ 23\end{array}$
$\begin{array}{llll}24 & 25 & 26 & 27 \\ 28 & 29 & 30\end{array}$
3:- 10:© 17:0 25:0
September
Mo Tu We Th Fr Sa Su
$\begin{array}{lllllll}2 & 3 & 4 & 5 & 6 & 7 & 8\end{array}$
$9 \begin{array}{lllllll}9 & 10 & 11 & 12 & 13 & 14 & 15\end{array}$
$\begin{array}{llllll}16 & 17 & 18 & 19 & 20 & 21 \\ 22\end{array}$
23242526272829
30
6:(14:O 22:© 28:-
December
Mo Tu We Th Fr Sa Su
$\begin{array}{lllllll}2 & 3 & 4 & 5 & 6 & 7 & 8\end{array}$ $9 \begin{array}{lllllll}9 & 10 & 11 & 12 & 13 & 14 & 15\end{array}$
$\begin{array}{lllll}16 & 17 & 18 & 19 & 20 \\ 21 & 22\end{array}$
23242526272829
3031
4:(12:O 19:O 26:

| December |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Mo Tu We Th Fr Sa Su |  |  |  |  |
| 2 3 4 5 6 7 8 <br> 9 10 11 12 13 14 15 <br> 16 17 18 19 20 21 22 <br> 23 24 25 26 27 28 29 <br> 30 31      |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| 4:(1) 12:O 19:O 26: |  |  |  |  |



| Clue | Number | Corresponding <br> letter |
| :--- | :--- | :--- |
| The third Friday in January |  |  |
| The new moon in April |  |  |
| First Monday in November |  |  |
|  |  |  |
| Second Wednesday in May |  |  |
| New Year Day |  |  |
| The day before full moon in March |  |  |
|  |  |  |



## Clue number 4:

Solve in the sequence and discover if the thief is a male or a female

The answer to each question is a number. The number needs to be changed into a letter from the alphabet. $A=1, B=2$ etc.


| Sequence | X, the missing <br> number | Corresponding <br> letter |
| :--- | :--- | :--- |
| $2-5-X-11-14$ |  |  |
| $20-15-10-X$ |  |  |
| $45-36-27-18-X$ |  |  |
| $13-15-17-X-21-23$ |  |  |
| $X-26-39-52$ |  |  |
| $0-X-2-3-4-5$ |  |  |
| $3-6-9-X-15$ |  |  |
| $20-15-10-X$ |  |  |

## Clue number 5:

Find which digits are shown by * and discover if the thief is a driver
The answer to each question is a number. The number needs to be changed into a letter from the alphabet. $A=1, B=2$ etc.

|  | Clue | X, the missing <br> number |
| :--- | :--- | :--- |
| $368+234=$ \# \# * | Corresponding <br> letter |  |
| $68+59=$ 米 米 \# |  |  |
| $439+82=$ \# * * |  |  |
| $278+327=$ \# \# * |  |  |
|  |  |  |
| $69+63=$ \# * \# |  |  |
| $549-328=\# \#$ * |  |  |
| $327-109=\#$ * * |  |  |

## WHO IS THE THIEF?

## Solutions

## Clue 1

| Clue | Number | Corresponding <br> letter |
| :--- | ---: | :--- |
| Numbers of sides of a square | 4 | D |
| The sides of three triangles minus the <br> sides of two squares | 18 |  |
| Number of sides of six triangles | R |  |
| Total numbers of vertices of an <br> octagon and a triangle | 11 | K |
|  | 8 | H |
| Number of sides of two rectangles |  |  |$\quad 1$| A |
| :--- |
| The difference between the number of <br> sides of a pentagon and of a square |
| Total sides of three triangles |

## DARK HAIR

Clue 2

| Clue | Number | Corresponding <br> letter |
| :--- | ---: | :--- |
| $7423-7405$ | 18 | R |
| $3529-3520$ | 9 | I |
| $392: 56$ | 7 | G |
| $96: 12$ | 8 | $H$ |
| $4000: 200$ | 20 | T |


| $120: 15$ | 8 H |  |
| :--- | ---: | :--- |
| $7432: 7432$ | 1 | A |
| $392: 28$ | 14 | N |
| $8000: 2000$ | 4 | D |
| $15761-15756$ | 5 | $E$ |
| $512: 32: 4$ | 4 | $D$ |

## RIGHT HANDED

## Clue 3

| Clue | Number | Corresponding <br> letter |
| :--- | ---: | :--- | :--- |
| The third Friday in January | 18 | R |
| The new moon in April | 5 | E |
| First Monday in November | 4 | D |


| Second Wednesday in May | 8 | $H$ |
| :--- | ---: | ---: |
| New Year Day | 1 | A |
| The day before full moon in March | 20 | T |

## RED HAT

Clue 4

| Sequence | X，the missing <br> number | Corresponding <br> letter |
| :--- | ---: | :--- |
| $2-5-\mathrm{X}-11-14$ | 8 H |  |
| $20-15-10-\mathrm{X}$ | 5 E |  |
| $45-36-27-18-\mathrm{X}$ | 9 | I |
| $13-15-17-\mathrm{X}-21-23$ | 19 | S |
|  |  |  |
| $\mathrm{X}-26-39-52$ | 13 | M |
| $0-\mathrm{X}-2-3-4-5$ | 1 | A |
| $3-6-9-\mathrm{X}-15$ | 12 | L |
| $20-15-10-\mathrm{X}$ | 5 | E |

## HE IS MALE

Clue 5

| Clue | $X$ ，the missing number | Corresponding letter |
| :---: | :---: | :---: |
| $368+234=\# \# *$ | 602 | B |
| $68+59$ 米 ＊ | 127 | L |
| $439+82=$ \＃＊＊ | 521 | U |
| $278+327=\# \# *$ | 605 | E |
| $69+63=\#$＊$\#$ | 132 | C |
| 549－328＝\＃\＃＊ | 221 | A |
| 327－109＝\＃米 米 | 218 | R |

## BLUE CAR

## THE THIEF IS IAN WALTERS

