

# MATH MYSTERY

## CASE OF THE GRADUATION GREMLINS

GRADE

4  
3



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# Teacher Resource

# Instructions

## PREPARATION

Print and copy pages 4-12 (for Clue 2, print page 7 for imperial units or page 8 if you would prefer to use metric units) for your students. You can do either of the following:

- Combine the pages to form a booklet for each student to work on; OR
- Hand out worksheets as you want students to work on them – please note that if you choose this option, students will always need the 'Possible Hideouts' page handy.

**IMPORTANT:** The clues must be completed in the order I have arranged them in i.e. 1-5!

## HOW TO USE

Read through the article on page 4 'Math Mystery: Case of the Graduation Gremlins' to set up the activity and engage students.

Instruct students that they will need to keep referring back to their Possible Hideouts list after solving each clue.

Students work through each clue, either guided by the teacher or independently (your choice). After completing a math worksheet, if students completed the questions correctly, a clue will be revealed. For example: '*It is a cold place.*' So, in this example, students then need to go to their possible hideouts list and cross off any places remaining that are not cold.

Once students have correctly completed all of the clues, only one hideout will remain and that place is where the gremlins are hiding with all of the graduation items. On page 12, the teacher ticks off the 'Well done . . .' box and the student can receive an Award (provided on page 20). If a student gets the wrong place, tick the second box "Oops! Try again," and instruct the student to go over their work to see where they went wrong.

## ANSWERS

I have provided answer sheets for all of the clues, as well as where the graduation gremlins are hiding! You will find these on pages 13-19. This includes the elimination process of hideouts post each clue. A color coded guide with comments has been provided to show this.

## AWARDS

On page 20 you will find awards that you can print and give to students who solve the case correctly. I suggest making it a rule that students complete all of the questions on each worksheet to be eligible for the award (even if they can guess what the clue is without finishing all of the math questions!). You could also make it a condition that students show their working out on the back of the page or on a separate piece of paper.

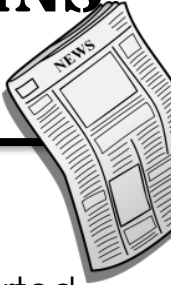
**If you need help, have any questions, or notice an error in my work please email me on [JJResourceCreations@gmail.com](mailto:JJResourceCreations@gmail.com)**

Thanks! 😊

# MATH MYSTERY:

## CASE OF THE GRADUATION GREMLINS

Date: \_\_\_\_\_



It is almost the end of the school year, but trouble has struck Mathhattan Elementary School! Teachers and students have reported that a gang of gremlins have been vandalizing the school and taking all sorts of important items required for graduation celebrations.

Mrs Frumpy complained, "The awards, certificates, memory books, games, prizes, hats and even my microphone have been taken! How are my students going to graduate now? They are so disappointed with these mischievous gremlins trying to ruin the end of year for everyone."

Sophia, a student, cried, "We were going to have a graduation party with food and games, but those terrible gremlins just stormed right into the classroom and took them all!"

Another student, named Anthony, put in the following statement, "I saw a group of gremlins sneak into the Principal's office and run out with her books, awards, trophies and computer! Someone must find where the gremlins are hiding with all of our things so that we can graduate and celebrate the end of year properly!"

### **MATH DETECTIVE NEEDED TO SEEK OUT THE GREMLIN GANG HIDEOUT AND RECOVER THE STOLEN GRADUATION ITEMS!!!**

The police have made a list of all the possible places the gang of gremlins could be hiding out in. However, they need a super detective with math skills to help them solve this case.

Let's hope that we can find these gremlins trying to ruin graduation, recover all of the stolen items and put a stop to them ruining the end of the school year for everyone!



# POSSIBLE HIDEOUTS

Hideout Place	Distance From Mathhattan Elementary School	Size	Temperature of Hideout	Positional Direction	Is it Underground? Yes/NO
Algebra Island	Far	Large	Warm	West	No
Crystal Cave	Close	Large	Cold	East	No
Sewer	Close	Large	Cold	North	Yes
Abandoned Theme Park	Far	Large	Warm	South	No
Pets Paradise Hotel	Close	Large	Warm	East	No
Crimson Chambers	Close	Medium	Cold	South	Yes
Chuck's Car Yard	Far	Medium	Warm	West	No
Pepe's Pizzeria Store Room	Close	Small	Cold	North	No
Behind the Donut Queen's Shop	Far	Small	Warm	South	No
The Historical Catacombs	Close	Large	Cold	South	Yes
Mrs Frumpy's Basement	Close	Small	Cold	North	Yes
The Graveyard	Far	Large	Cold	East	No
Mathhattan Subway Station	Close	Medium	Warm	South	Yes
The Local IT Company	Close	Medium	Cold	South	No
Slimewort's Abandoned Lair	Close	Small	Cold	West	Yes

**Solve the clues and then cross the hideout place off the list until one remains!  
The last place remaining is where the gremlins are hiding with all of the graduation items!**

# ADD, SUBTRACT, MULTIPLY & DIVIDE – CLUE 1

Crack the code by completing the addition, subtraction, multiplication or division sentences below. Use your answers to match and place the letters in the boxes to reveal the clue. Put the letter in every box that it matches your answer in (there may be more than one!) The first one has been done for you!

27	79	49	3	6

					U	
79	3	4	49	40	32	27

	U		
50	32	11	27

12	49

31	10	40	11	49

27	40

27	79	49

11	31	79	40	40	10

$$10 + 22 = \underline{32}$$

**U**

$$100 - 90 = \underline{\quad}$$

**L**

$$3 \times 2 = \underline{\quad}$$

**R**

$$30 \div 10 = \underline{\quad}$$

**I**

$$25 + 25 = \underline{\quad}$$

**M**

$$88 - 9 = \underline{\quad}$$

**H**

$$7 \times 7 = \underline{\quad}$$

**E**

$$55 \div 5 = \underline{\quad}$$

**S**

$$34 + 6 = \underline{\quad}$$

**O**

$$16 - 4 = \underline{\quad}$$

**B**

$$9 \times 3 = \underline{\quad}$$

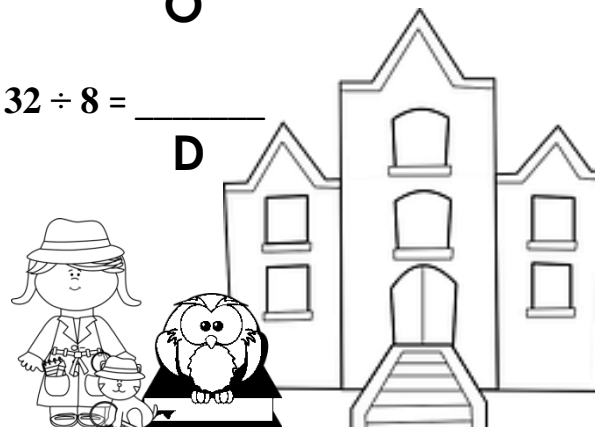
**T**

$$32 \div 8 = \underline{\quad}$$

**D**

$$15 + 16 = \underline{\quad}$$

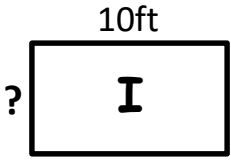
**C**



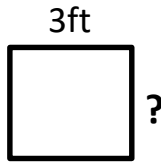
**Customary Units**

# PERIMETER- CLUE 2

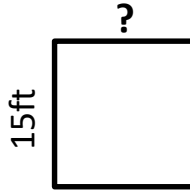
Reveal a clue about the Gremlins hideout place by using the information given for each shape and solving the length of the side marked with a question mark (?). Use your answers to find which letter to place inside each shape. The first one has been done for you!



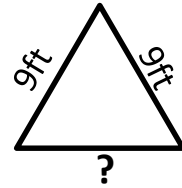
Perimeter: 30ft  
**? = 5ft**



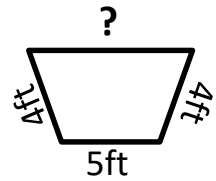
Perimeter: 12ft



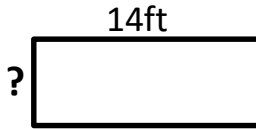
Perimeter: 50ft



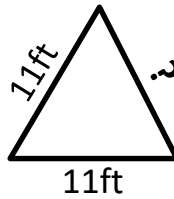
Perimeter: 27ft



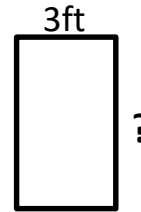
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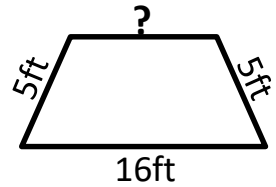
Perimeter: 36ft



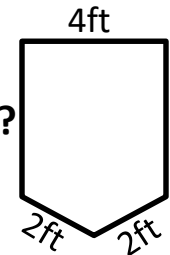
Perimeter: 33ft



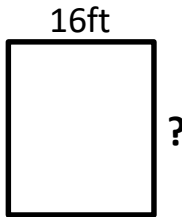
Perimeter: 22ft



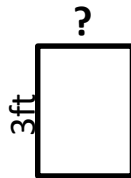
Perimeter: 38ft



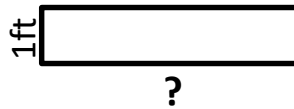
Perimeter: 20ft



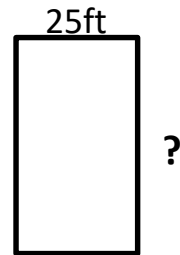
Perimeter: 72ft



Perimeter: 10ft



Perimeter: 32ft



Perimeter: 150ft



5ft = I

11ft = O

15ft = C

20ft = L

8ft = L

6ft = P

3ft = T

50ft = E

4ft = C

10ft = I

12ft = D

2ft = A

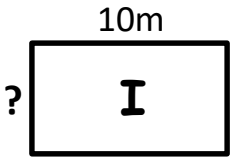
7ft = A

9ft = S

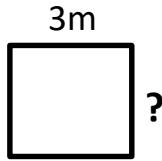
Metric Units

# PERIMETER—CLUE 2

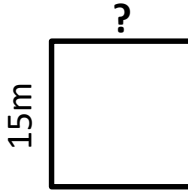
Reveal a clue about the Gremlins hideout place by using the information given for each shape and solving the length of the side marked with a question mark (?). Use your answers to find which letter to place inside each shape. The first one has been done for you!



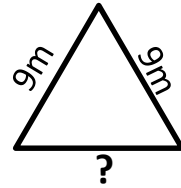
Perimeter: 30m  
? = 5m



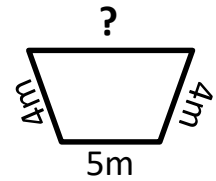
Perimeter: 12m



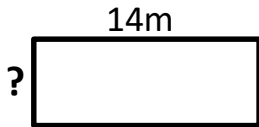
Perimeter: 50m



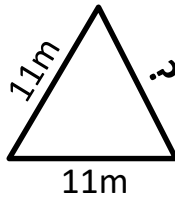
Perimeter: 27m



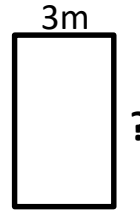
Perimeter: 20m



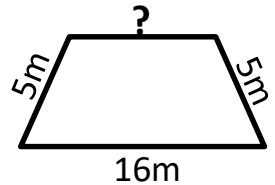
Perimeter: 36m



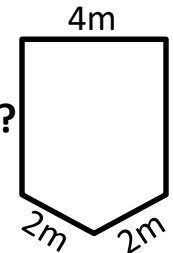
Perimeter: 33m



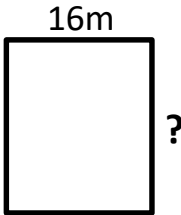
Perimeter: 22m



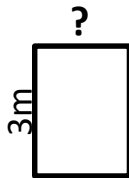
Perimeter: 38m



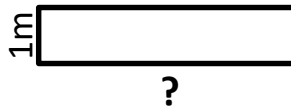
Perimeter: 20m



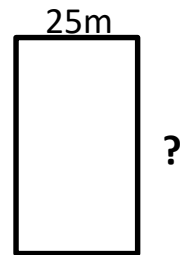
Perimeter: 72m



Perimeter: 10m



Perimeter: 32m



Perimeter: 150m



5m = I

11m = O

15m = C

20m = L

8m = L

6m = P

3m = T

50m = E

4m = C

10m = I

12m = D

2m = A

7m = A

9m = S



# REDUCING FRACTIONS – CLUE 3

In the grid below you will find a number of public statements that the police collected, however unfortunately only one of them is revealing the correct clue. Reduce the fractions to their lowest terms in the list at the bottom of the page, and then look for your answers in the statement boxes and cross out each box that matches with your answers (meaning that the statement in that box has been eliminated). The one statement box left standing after completing all of the questions, is the one with the correct clue!

<p>Do you think that it is possible that the gremlins are hiding in the school?</p> <p style="text-align: right;"><math>\frac{7}{9}</math></p>	<p>My sister said that she saw a gang of gremlins running with all of the graduation items towards Chuck's Car Yard.</p> <p style="text-align: right;"><math>\frac{6}{7}</math></p>	<p>There has been some gossip around town that they are hiding in a medium sized place south of Mathhattan Elementary.</p> <p style="text-align: right;"><math>\frac{1}{5}</math></p>	<p>I'd say they are probably also who are responsible for our poor Internet connection lately, have you checked in with the Local IT Company?</p> <p style="text-align: right;"><math>\frac{2}{5}</math></p>
<p>I think I saw a couple of gremlins hiding a stash of certificates at a place in the northern direction.</p> <p style="text-align: right;"><math>\frac{3}{10}</math></p>	<p>I saw this medium place that would be great for hiding all of the items they took.</p> <p style="text-align: right;"><math>\frac{3}{5}</math></p>	<p>They are probably lurking in one of those strange places located in the south.</p> <p style="text-align: right;"><math>\frac{1}{2}</math></p>	<p>I'm pretty sure the gremlins have been meddling with my computer every night!</p> <p style="text-align: right;"><math>\frac{5}{6}</math></p>
<p>My guess is that the gremlins are probably hiding in a large place.</p> <p style="text-align: right;"><math>\frac{1}{4}</math></p>	<p>I heard that gremlins are scared of the dark, so they wouldn't be hiding underground.</p> <p style="text-align: right;"><math>\frac{1}{7}</math></p>	<p>My Aunt said that she spoke to a man who said that he saw a bunch of gremlins running with the graduation items west of Mathhattan.</p> <p style="text-align: right;"><math>\frac{4}{5}</math></p>	<p>I wouldn't be surprised if they were colluding with Mrs Frumpy and in fact hiding in her basement!</p> <p style="text-align: right;"><math>\frac{3}{4}</math></p>
<p>The gremlins must be hiding underground to not be easily noticed or found with all of the items.</p> <p style="text-align: right;"><math>\frac{7}{10}</math></p>	<p>The gremlins must be hiding in a small place, because they like confined spaces.</p> <p style="text-align: right;"><math>\frac{1}{3}</math></p>	<p>I'm pretty sure I saw a gremlin running into the local IT company.</p> <p style="text-align: right;"><math>\frac{1}{6}</math></p>	<p>Rumor has it that the gremlins are probably using Slimewort's abandoned lair.</p> <p style="text-align: right;"><math>\frac{2}{3}</math></p>

$\frac{2}{6} =$

$\frac{2}{4} =$

$\frac{2}{10} =$

$\frac{4}{6} =$

$\frac{2}{8} =$

$\frac{7}{9} =$

$\frac{6}{10} =$

$\frac{8}{10} =$

$\frac{10}{12} =$

$\frac{6}{15} =$

$\frac{6}{8} =$

$\frac{6}{36} =$

$\frac{12}{14} =$

$\frac{3}{10} =$

$\frac{10}{70} =$

Name: \_\_\_\_\_

# TIME PATTERNS – CLUE 4

Crack the code by filling in the missing times in the time patterns below. Use your answers to match and place the letters in the boxes to reveal a clue. Put the letter in every box that it matches your answer in (there may be more than one!) The first one has been done for you!

6:00, 4:00, 2:00, 12:00, 10:00, \_\_\_\_\_  
**G** **D**

12:30, 1:00, \_\_\_\_\_, 2:00, 2:30, \_\_\_\_\_  
**R** **I**

1:00, \_\_\_\_\_, 9:00, 7:00, \_\_\_\_\_, 3:00  
**A** **T**

8:30, 9:00, \_\_\_\_\_, 10:00, \_\_\_\_\_, 11:00  
**O** **F**

12:00, 11:00, \_\_\_\_\_, 9:00, 8:00, \_\_\_\_\_  
**H** **M**

\_\_\_\_\_, 2:00, 3:30, 5:00, \_\_\_\_\_, 8:00, 9:30  
**E** **P**

9:00, 8:00, 7:00, \_\_\_\_\_, 5:00, \_\_\_\_\_  
**U** **L**

1:30, 3:30, \_\_\_\_\_, 7:30, 9:30, \_\_\_\_\_  
**W** **S**

4:00, 4:10, 4:20, \_\_\_\_\_, 4:40, 4:50, 5:00  
**N**

**G**         
 2:00 1:30 12:30 7:00 4:00 3:00 4:30

10:30 9:30 9:30 5:00 6:30 1:30 3:00 4:30 5:00 11:30

5:30 12:30 1:30 12:30

10:30 9:30 6:00 4:30 8:00

**G**  
 10:00 12:30 11:00 8:00 3:00 4:30 2:00

11:30 9:30 6:00 5:00 10:00

# ADDITION - CLUE 5

Discover clue 5 by correctly completing the addition algorithms below. Locate your answer at the bottom and see what letter it matches to write in the box. The first one has been done for you!

$$\begin{array}{r} 230 \\ + 225 \\ \hline 455 \\ \hline \end{array}$$

T

$$\begin{array}{r} 104 \\ + 210 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 562 \\ + 300 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 720 \\ + 120 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 190 \\ + 315 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 344 \\ + 311 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 108 \\ + 242 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 639 \\ + 270 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 482 \\ + 431 \\ \hline \\ \hline \end{array}$$

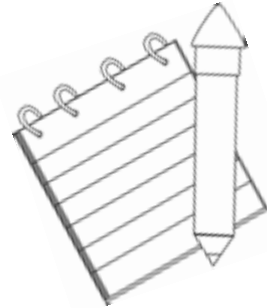
$$\begin{array}{r} 700 \\ + 198 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 361 \\ + 509 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 175 \\ + 499 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 819 \\ + 192 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 722 \\ + 56 \\ \hline \\ \hline \end{array}$$



$$\begin{array}{r} 240 \\ + 610 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 473 \\ + 308 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 784 \\ + 92 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 551 \\ + 348 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 106 \\ + 55 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 596 \\ + 45 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 250 \\ + 250 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 700 \\ + 203 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 618 \\ + 184 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 492 \\ + 64 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 400 \\ + 600 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 350 \\ + 350 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 168 \\ + 329 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 502 \\ + 416 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 105 \\ + 130 \\ \hline \\ \hline \end{array}$$

The answers are jumbled up below with a letter to help crack the code!

455 = T

505 = L

674 = T

655 = A

235 = E

641 = F

350 = C

556 = T

781 = A

903 = R

1011 = B

161 = E

870 = S

876 = R

850 = L

862 = E

314 = H

840 = P

700 = R

497 = A

500 = O

802 = S

899 = G

909 = E

913 = M

918 = G

1000 = O

778 = E

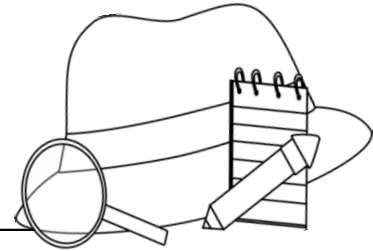
898 = U



# SOLVE THE MYSTERY: WHERE ARE THE GRADUATION GREMLINS HIDING?



**Detective**



---

*(your name)*

**Has discovered that the Graduation Gremlins' Hideout is:**

---

## Clues Checklist:

Clue 1

Clue 2

Clue 3

Clue 4

Clue 5



**Teacher to check and tick**

**Well done you have found where the gremlins are hiding and recovered all of the graduation items!**



**Oops! No that is not where the gremlins are hiding. Try Again.**

# ANSWER SHEET – CLUE 1

Crack the code by completing the addition, subtraction, multiplication or division sentences below. Use your answers to match and place the letters in the boxes to reveal the clue. Put the letter in every box that it matches your answer in (there may be more than one!) The first one has been done for you!

T	H	E	I	R
27	79	49	3	6

Cross off all places that are far from the school.

H	I	D	E	O	U	T
79	3	4	49	40	32	27

M	U	S	T
50	32	11	27

B	E
12	49

C	L	O	S	E
31	10	40	11	49

T	O
27	40

T	H	E
27	79	49

S	C	H	O	O	L
11	31	79	40	40	10

$$10 + 22 = \underline{32}$$

**U**

$$100 - 90 = \underline{10}$$

**L**

$$3 \times 2 = \underline{6}$$

**R**

$$30 \div 10 = \underline{3}$$

**I**

$$25 + 25 = \underline{50}$$

**M**

$$88 - 9 = \underline{79}$$

**H**

$$7 \times 7 = \underline{49}$$

**E**

$$55 \div 5 = \underline{11}$$

**S**

$$34 + 6 = \underline{40}$$

**O**

$$16 - 4 = \underline{12}$$

**B**

$$9 \times 3 = \underline{27}$$

**T**

$$32 \div 8 = \underline{4}$$

**D**

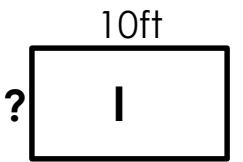
$$15 + 16 = \underline{31}$$

**C**

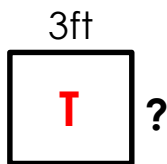
Imperial Units

# ANSWER SHEET – CLUE 2

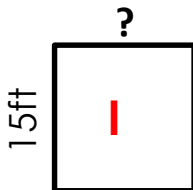
Reveal a clue about the Gremlins hideout place by using the information given for each shape and solving the length of the side marked with a question mark (?). Use your answers to find which letter to place inside each shape. The first one has been done for you!



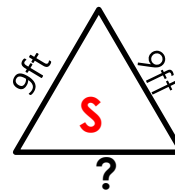
Perimeter: 30ft  
? = 5ft



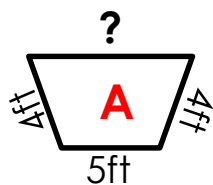
Perimeter: 12ft  
? = 3ft



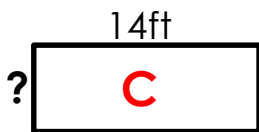
Perimeter: 50ft  
? = 10ft



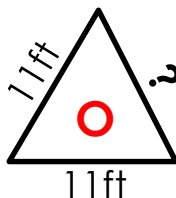
Perimeter: 27ft  
? = 9ft



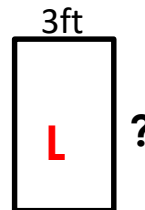
Perimeter: 20ft  
? = 7ft



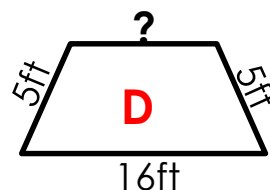
Perimeter: 36ft  
? = 4ft



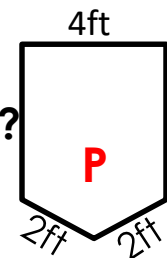
Perimeter: 33ft  
? = 11ft



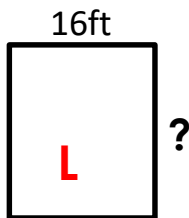
Perimeter: 22ft  
? = 8ft



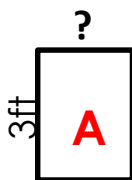
Perimeter: 38ft  
? = 12ft



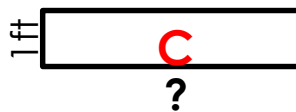
Perimeter: 20ft  
? = 6ft



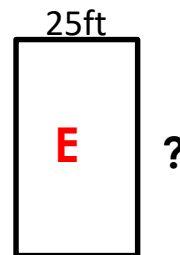
Perimeter: 72ft  
? = 20ft



Perimeter: 10ft  
? = 2ft



Perimeter: 32ft  
? = 15ft



Perimeter: 150ft  
? = 50ft

Cross off places that are not cold.

5ft = I

11ft = O

15ft = C

20ft

6ft = P

3ft = T

50ft = E

4ft = C

10ft = I

12ft = D

2ft = A

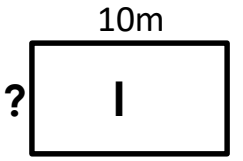
7ft = A

9ft = S

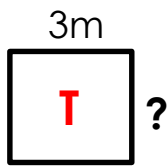
**Metric Units**

# ANSWER SHEET – CLUE 2

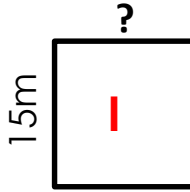
Reveal a clue about the Gremlins hideout place by using the information given for each shape and solving the length of the side marked with a question mark (?). Use your answers to find which letter to place inside each shape. The first one has been done for you!



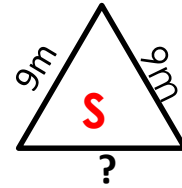
Perimeter: 30m  
? = 5m



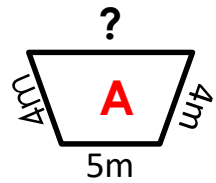
Perimeter: 12m  
? = 3m



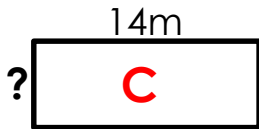
Perimeter: 50m  
? = 10m



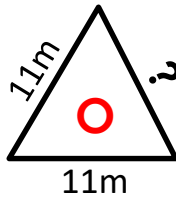
Perimeter: 27m  
? = 9m



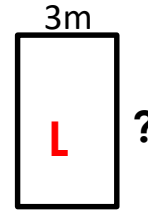
Perimeter: 20m  
? = 7m



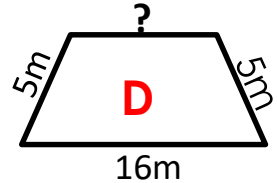
Perimeter: 36m  
? = 4m



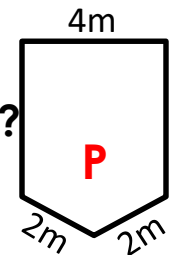
Perimeter: 33m  
? = 11m



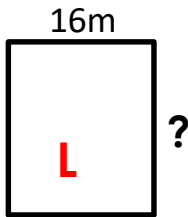
Perimeter: 22m  
? = 8m



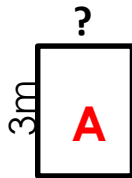
Perimeter: 38m  
? = 12m



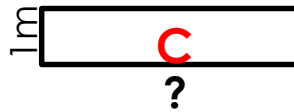
Perimeter: 20m  
? = 6m



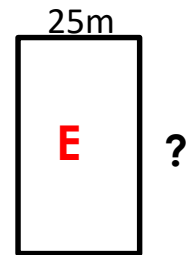
Perimeter: 72m  
? = 20m



Perimeter: 10m  
? = 2m



Perimeter: 32m  
? = 15m



Perimeter: 150m  
? = 50m

Cross off places that are not cold.

5m = I

11m = O

15m = C

20m =

6m = P

3m = T

50m = E

4m = C

10m = I

12m = D

2m = A

7m = A

9m = S

# ANSWER SHEET- CLUE 3

In the grid below you will find a number of public statements that the police collected, however unfortunately only one of them is revealing a correct clue. Reduce the fractions to the lowest form in the list at the bottom of the page, and then look for your answer in the statement boxes and cross out that box (meaning that the statement in that box has been eliminated). The one statement box left standing after completing all of the questions, is the one with the correct clue!

<p>Do you think that it is possible that the gremlins are hiding in the north?</p> <p><del>X</del></p> <p><math>\frac{7}{9}</math></p>	<p>My sister said that she saw a gang of gremlins running with all of the graduation items towards the Car Yard.</p> <p><del>X</del></p> <p><math>\frac{6}{7}</math></p>	<p>There has been some gossip around town that they are hiding in a medium place south of Mattan Elementary.</p> <p><del>X</del></p> <p><math>\frac{1}{5}</math></p>	<p>I'd say they are probably also who are responsible for our poor Internet connection. Why, have you checked with the Local IT Company?</p> <p><del>X</del></p> <p><math>\frac{2}{5}</math></p>
<p>I think I saw a couple of gremlins hiding a stash of computers in a place in the northern direction.</p> <p><del>X</del></p> <p><math>\frac{3}{10}</math></p>	<p>I saw this medium place that would be great for hiding all of the items that I took.</p> <p><del>X</del></p> <p><math>\frac{3}{5}</math></p>	<p>They are probably lurking in one of those medium places in the south.</p> <p><del>X</del></p> <p><math>\frac{1}{2}</math></p>	<p>I'm pretty sure the gremlins have been meddling with my computer every night!</p> <p><del>X</del></p> <p><math>\frac{5}{6}</math></p>
<p>My guess is that the gremlins are probably hiding in a large place.</p> <p><del>X</del></p> <p><math>\frac{1}{4}</math></p>	<p>I heard that gremlins are scared of the dark, so they wouldn't be hiding underground.</p> <p><del>X</del></p> <p><math>\frac{1}{4}</math></p>	<p>My Aunt said that she spoke to a man who said that he saw a bunch of gremlins running with the graduation items west of the town.</p> <p><del>X</del></p> <p><math>\frac{1}{4}</math></p>	<p>I wouldn't be surprised if they were colluding with Mrs Frumpy and in fact hiding in her basement!</p> <p><del>X</del></p> <p><math>\frac{3}{4}</math></p>
<p>The gremlins must be hiding underground to not be easily noticed or found with all of the items.</p> <p><math>\frac{7}{10}</math></p>	<p>place, like computer spaces.</p> <p><del>X</del></p> <p><math>\frac{1}{3}</math></p>	<p>the local IT company.</p> <p><del>X</del></p> <p><math>\frac{1}{6}</math></p>	<p>Rumor has it that the gremlins are probably using the local IT's abandoned spaces.</p> <p><del>X</del></p> <p><math>\frac{2}{3}</math></p>

**Cross off any places that are not underground.**

- $\frac{2}{6} = \frac{1}{3}$
- $\frac{2}{4} = \frac{1}{2}$
- $\frac{2}{10} = \frac{1}{5}$
- $\frac{4}{6} = \frac{2}{3}$
- $\frac{2}{8} = \frac{1}{4}$
- $\frac{7}{9} = \frac{7}{9}$
- $\frac{6}{10} = \frac{3}{5}$
- $\frac{8}{10} = \frac{4}{5}$
- $\frac{10}{12} = \frac{5}{6}$
- $\frac{6}{15} = \frac{2}{5}$
- $\frac{6}{8} = \frac{3}{4}$
- $\frac{6}{36} = \frac{1}{6}$
- $\frac{12}{14} = \frac{6}{7}$
- $\frac{3}{10} = \frac{3}{10}$
- $\frac{10}{70} = \frac{1}{7}$



**ANSWER SHEET- CLUE 4**

Crack the code by filling in the missing times in the time patterns below. Use your answers to match and place the letters in the boxes to reveal a clue. Put the letter in every box that it matches your answer in (there may be more than one!) The first one has been done for you!

6:00, 4:00, 2:00, 12:00, 10:00, 8:00  
**G** **D**

12:30, 1:00, 1:30, 2:00, 2:30, 3:00  
**R** **I**

1:00, 11:00, 9:00, 7:00, 5:00, 3:00  
**A** **T**

8:30, 9:00, 9:30, 10:00, 10:30, 11:00  
**O** **F**

12:00, 11:00, 10:00, 9:00, 8:00, 7:00  
**H** **M**

12:30, 2:00, 3:30, 5:00, 6:30, 8:00, 9:30  
**E** **P**

9:00, 8:00, 7:00, 6:00, 5:00, 4:00  
**U** **L**

1:30, 3:30, 5:30, 7:30, 9:30, 11:30  
**W** **S**

4:00, 4:10, 4:20, 4:30, 4:40, 4:50, 5:00  
**N**

**G** **R** **E** **M** **L** **I** **N**  
 2:00 1:30 12:30 7:00 4:00 3:00 4:30

**F** **O** **O** **T** **P** **R** **I** **N** **T** **S**  
 10:30 9:30 9:30 5:00 6:30 1:30 3:00 4:30 5:00 11:30

**W** **E** **R** **E**  
 5:30 12:30 1:30 12:30

**F** **O** **U** **N** **D**  
 10:30 9:30 6:00 4:30 8:00

**H** **E** **A** **D** **I** **N** **G**  
 10:00 12:30 11:00 8:00 3:00 4:30 2:00

**S** **O** **U** **T** **H**  
 11:30 9:30 6:00 5:00 10:00

Keep any remaining places positioned in the south.

# ANSWER SHEET CLUE 5

Discover clue 5 by correctly completing the addition algorithms below. Locate your answer at the bottom and see what letter it matches to write in the box. The first one has been done for you!

$\begin{array}{r} 230 \\ + 225 \\ \hline 455 \end{array}$	$\begin{array}{r} 104 \\ + 210 \\ \hline 314 \end{array}$	$\begin{array}{r} 562 \\ + 300 \\ \hline 862 \end{array}$	$\begin{array}{r} 720 \\ + 120 \\ \hline 840 \end{array}$	$\begin{array}{r} 190 \\ + 315 \\ \hline 505 \end{array}$	$\begin{array}{r} 344 \\ + 311 \\ \hline 655 \end{array}$	$\begin{array}{r} 108 \\ + 242 \\ \hline 350 \end{array}$	$\begin{array}{r} 639 \\ + 270 \\ \hline 909 \end{array}$
<b>T</b>	<b>H</b>	<b>E</b>	<b>P</b>	<b>L</b>	<b>A</b>	<b>C</b>	<b>E</b>

$\begin{array}{r} 482 \\ + 431 \\ \hline 913 \end{array}$	$\begin{array}{r} 700 \\ + 198 \\ \hline 898 \end{array}$	$\begin{array}{r} 361 \\ + 509 \\ \hline 870 \end{array}$	$\begin{array}{r} 175 \\ + 499 \\ \hline 674 \end{array}$	$\begin{array}{r} 819 \\ + 192 \\ \hline 1011 \end{array}$	$\begin{array}{r} 722 \\ + 56 \\ \hline 778 \end{array}$
<b>M</b>	<b>U</b>	<b>S</b>	<b>T</b>	<b>B</b>	<b>E</b>

$\begin{array}{r} 240 \\ + 610 \\ \hline 850 \end{array}$	$\begin{array}{r} 473 \\ + 308 \\ \hline 781 \end{array}$	$\begin{array}{r} 784 \\ + 92 \\ \hline 876 \end{array}$	$\begin{array}{r} 551 \\ + 348 \\ \hline 899 \end{array}$	$\begin{array}{r} 106 \\ + 55 \\ \hline 161 \end{array}$	$\begin{array}{r} 596 \\ + 45 \\ \hline 641 \end{array}$	$\begin{array}{r} 250 \\ + 250 \\ \hline 500 \end{array}$	$\begin{array}{r} 700 \\ + 203 \\ \hline 903 \end{array}$
<b>L</b>	<b>A</b>	<b>R</b>	<b>G</b>	<b>E</b>	<b>F</b>	<b>O</b>	<b>R</b>

$\begin{array}{r} 618 \\ + 184 \\ \hline 802 \end{array}$	$\begin{array}{r} 492 \\ + 64 \\ \hline 556 \end{array}$	$\begin{array}{r} 400 \\ + 600 \\ \hline 1000 \end{array}$	$\begin{array}{r} 350 \\ + 350 \\ \hline 700 \end{array}$	$\begin{array}{r} 168 \\ + 329 \\ \hline 497 \end{array}$	$\begin{array}{r} 502 \\ + 416 \\ \hline 918 \end{array}$	$\begin{array}{r} 105 \\ + 130 \\ \hline 235 \end{array}$
<b>S</b>	<b>T</b>	<b>O</b>	<b>R</b>	<b>A</b>	<b>G</b>	<b>E</b>

The answers are jumbled up below with a letter to help crack the code!

455 = T

505 = L

674 = T

655 = A

641 = F

350 = C

556 = T

903 = R

1011 = B

161 = E

870 = S

850 = L

862 = E

314 = H

840 = P

497 = A

500 = O

802 = S

899 = G

913 = M

918 = G

1000 = O

778 = E

Cross off any remaining places not large. This should now leave the hideout only remaining.

# HIDEOUT ELIMINATION

Hideout Place	Distance From Mathhattan Elementary School	Size	Temperature of Hideout	Positional Direction from the school	Underground Yes/NO
Algebra Island	Far	Large	Warm	West	No
Crystal Cave	Close	Large	Cold	East	No
Sewer	Close	Large	Cold	North	Yes
Abandoned Theme Park	Far	Large	Warm	South	No
Pets Paradise Hotel	Close	Large	Warm	East	No
Crimson Chambers	Close	Medium	Cold	South	Yes
Chuck's Car Yard	Far	Medium	Warm	West	No
Pepe's Pizzeria Store Room	Close	Small	Cold	North	No
Behind the Donut Queen's Shop	Far	Small	Warm	South	No
<b>The Historical Catacombs</b>	<b>Close</b>	<b>Large</b>	<b>Cold</b>	<b>South</b>	<b>Yes</b>
Mrs Frumpy's Basement	Close	Small	Cold	North	Yes
The Graveyard	Far	Large	Cold	East	No
Mathhattan Subway Station	Close	Medium	Warm	South	Yes
The Local IT Company	Close	Medium	Cold	South	No
Slimewort's Abandoned Lair	Close	Small	Cold	West	Yes

On the answer sheets you will find a comment about which places need to be crossed off. Please refer to the color of the font and the color of the shaded places to show where has been crossed off from that clue.

**HIDEOUT ANSWER: THE HISTORICAL CATACOMBS**

# Super Detective Work!



Awarded To:

\_\_\_\_\_



For solving the Math Mystery:

## Case of The Graduation Gremlins



# Super Detective Work!



Awarded To:

\_\_\_\_\_



For solving the Math Mystery:

## Case of The Graduation Gremlins



# CREDITS

## THANK YOU FOR GRAPHICS & FONTS

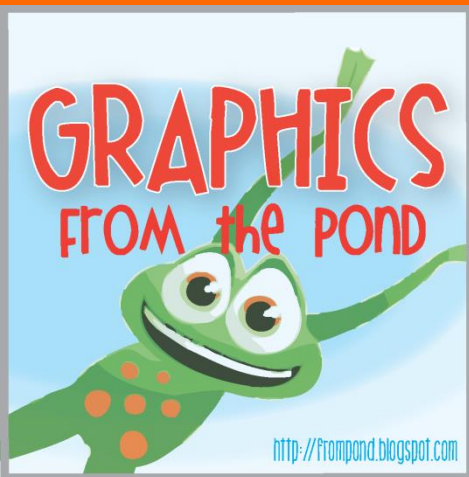


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