

Dear Parents,

The summer packets for this summer are **Mystery Math Activity Packets**. The kids had a lot of fun doing a couple different ones over the school year. They offer a good review of math concepts. They also help the kids with logical thinking, teach them the process of elimination and are **FUN!**

Please know that if your child struggles with a specific concept, put extra practice into that concept. Mastering their addition, subtraction, multiplication and division facts will help them tremendously once school starts again.

I have also attached a list of fun, picture math books and free websites you can find to enforce math as well.

I have enjoyed this past year so much!!! And I have loved being a part of your child's everyday life and learning!

I hope everyone has a fantastic summer!!!

Ms. Melissa

WEBSITES FOR MATH PICTURE BOOKS

<https://www.livinglifeandlearning.com/math-books-kids-will-love.html>

https://storiesbystorie.com/childrens-books-about-place-value/?utm_medium=social&utm_source=pinterest&utm_campaign=tailwind_tribes&utm_content=tribes&utm_term=694282702_27709336_228043

<https://mathgeekmama.com/best-books-teach-to-fractions/>

<https://mathgeekmama.com/teaching-math-with-sir-cumference/>

https://intentionalfamilylife.com/stories-about-math/?utm_medium=social&utm_source=pinterest&utm_campaign=tailwind_tribes&utm_content=tribes&utm_term=1030634270_47783488_30627

<https://mathgeekmama.com/best-books-to-teach-money-math/>

<https://www.weareteachers.com/picture-books-about-math/?epik=dj0yJnU9Q1BwYjhHU09BN1QxNzFPSTU2NjM5anVJdzdRT2hGd3EmcD0wJm49S2xPZTA0YTI2MWZfVGw5QjkyZTB4USZ0PUBQUBR0o1VEZr>

<https://mathgeekmama.com/5-simple-ways-teach-with-math-story-books/>

MATH WEBSITES

<https://www.coolmathgames.com/>

<https://afterschoolhelp.com/>

<https://www.mathplayground.com/>

<https://www.splashlearn.com/math-games>

<https://www.prodigygame.com/main-en/>

<https://www.crazygames.com/t/math>

MATH MYSTERY



CASE OF THE MISSING CAMPERS

GRADE 4

Teacher Resource Instructions

PREPARATION

Print and copy pages 4-11 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 Places' page handy.
- I recommend carrying out a demonstration and a lesson on the math skill before completing a clue if it is a concept not yet done or is something that your students are struggling with.
- You could get students to work independently or in pairs/groups. This also works well for sub tubs, early finisher tasks, math centers, and enrichment groups.

**IMPORTANT: The clues must be completed in the order I have arranged them in:1-5!
If you prefer not to complete them in the same order, then please
Carry out the elimination process after all five clues are unlocked.**

<PLEASE CLICK HERE to ACCESS the WORKSHEETS DIGITALLY ON GOOGLE SLIDES>

- You will need to make a digital copy for each student
- Your students will need to be in 'edit' mode not 'present' mode to enter answers into the boxes.

HOW TO USE

Read through the article on page 4 'Math Mystery: The Case of the Missing Campers' or view the [optional video hook](#) to set up the activity and engage students.

Instruct students that they will need to keep referring back to their Possible Places list after solving each clue. They must read the clues carefully to decide what it means to cross off the list.

Students work through each clue, either guided by the teacher or independently (your choice). After correctly completing a math worksheet, a clue will be revealed. For example: 'They are not close to the cabins.' So, in this example, students must cross off all rows with locations marked as close to the cabins.

After completing all of the clues, if done correctly, only one location row will remain on the list, and that where they will find the missing campers! On page 11, the teacher ticks off the 'Well done . . . ' box and the student can receive an Award (provided on page 18) if they solve it correctly. If a student gets the wrong answer, tick the second box "Oops! Try again," and instruct the student to go over their work to see where they went wrong.

ANSWERS

You will find the answer key from [page 12](#) - 17

AWARDS

On [page 18](#) 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!).

There is an optional ENDING VIDEO provided inside your folder (it is an MP4 file). Use this to wrap up the mystery activity.

If you need help, have any questions, or notice an error in my work please email me on

JJResourceCreations@gmail.com

Thanks! 😊

MATH MYSTERY:

THE CASE OF THE MISSING CAMPERS

Date: _____

Mathhattan's Summer Camp had only just begun, when something strange began to happen. During the night, while the campers were sleeping, scary sounds could be heard echoing through the Whispering Woods.

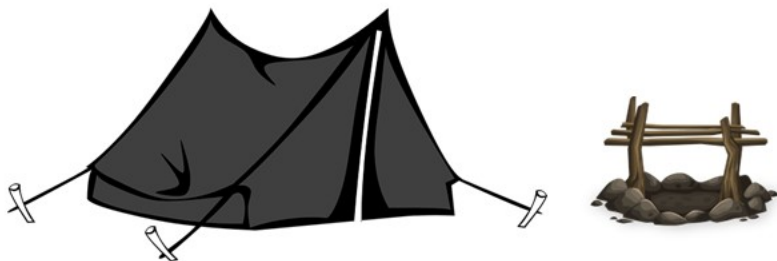
One night, Sandy, Adam, Tom, Alice, Eva, and Ryder decided to investigate the strange noises. They snuck out of their cabin, took two torches, and a bag of supplies. That was the last everyone at the camp had seen them. Their beds were found empty in the morning. They never returned.

Mrs. Appleby cried, "We urgently need a detective to find out what has happened and hopefully rescue our camp friends. Please hurry! We are all so very worried about them."

Gretel cried, "If it helps, my cousin, Tom, usually leaves a trail of candy when he goes out exploring. Detective, if you see any candy, that's a clue as to where they went walking."

MATH DETECTIVE URGENTLY NEEDED TO FIND AND RESCUE THE MISSING CAMPERS!

Hurry, you must rescue the missing campers as fast as possible!



Name: _____

POSSIBLE PLACES

Location of the Missing Campers	Lost or Kidnapped?	WHO/WHAT Caused their disappearance?	Close or Far from the Cabins?	Positional Direction
Big Foot's Den	Kidnapped	A monster	Far	North
Monster's Chamber	Kidnapped	A monster	Far	West
The Enchanted Pond	Lost	Scared by a swarm of bugs	Close	East
The Wishing Tree	Lost	Trapped	Close	South
The Druid's Temple	Kidnapped	Trapped	Far	West
The Fairy Huts	Kidnapped	Trapped	Close	East
Momo's Lair	Kidnapped	A monster	Far	North
The Hermit's Hideaway	Lost	Trapped	Far	North
The Pine Mirage	Kidnapped	A monster	Close	South
Echoes Lake	Lost	Scared by a swarm of bugs	Close	East
The Hush-Hush Mushroom	Lost	Made ill from toxic plants	Far	North
The Restricted Log Cabins	Lost	Trapped	Close	West
The Vanishing Shrub	Lost	Made ill from toxic plants	Close	South
The Whispering Lake	Kidnapped	A monster	Far	South
The Wizard's Waterfall	Lost	Scared by a swarm of bugs	Far	North
The Emerald Everglade	Lost	Made ill from toxic plants	Far	West
The Lying Labyrinth	Lost	Trapped	Close	East
The Witch Bird's Tricking Tree	Kidnapped	A dangerous animal	Far	West
The Grumpy Gnomes' Village	Kidnapped	Trapped	Far	North
Riddle Cottage	Lost	Made ill from toxic plants	Far	South
The Wolf's Cave	Kidnapped	A dangerous animal	Far	West

Solve the clues and then cross the locations off the list until only one place remains! The last location remaining is where you will find and rescue the missing campers.

Whole rows must be eliminated at a time.



ADDITION & SUBTRACTION – CLUE 1

Discover the first clue by completing the addition and subtraction questions. 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 is already done for you.

--	--	--	--

4,731 7,775 936 3,677

--	--	--

1,022 5,879 936

--	--	--

18,894 2,019 4,731

--	--

1,022 4,731

--	--	--	--	--	--

936 8,131 7,775 2,019 936 55,326

--	--	--	--

6,759 1,022 31,728 936

--	--	--

4,731 7,775 936

F				
---	--	--	--	--

7,221 1,022 8,948 5,879 3,677

--	--	--	--

7,775 11,450 4,731 55,326

--	--

2,019 5,879

--	--	--

4,731 7,775 936

--	--	--	--	--

47,221 5,879 11,450 8,948 47,221

--

55,326



--	--	--	--	--	--

4,731 936 7,199 6,576 6,759 936

4,562

1,336

5,993

2,191

3,955

4,006

7,211

+ 2,659

+ 5,240

+ 1,782

+ 5,008

+ 1,924

+ 4,125

+ 4,239

7,221

F

P

H

M

R

C

U

2,182

5,210

9,243

7,214

6,791

9,597

8,003

- 1,246

- 3,191

- 4,512

- 6,192

- 3,114

- 649

- 1,244

E

O

T

A

Y

I

L

24,562

98,125

43,127

65,153

+ 22,659

- 79,231

+ 12,199

- 33,425

D

N

S

K



LONG MULTIPLICATION – CLUE 2

Discover the next clue by solving the multiplication questions. 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 is already done for you.

	H		
--	---	--	--

16,608 4,518 7,020 3,897

--	--	--

2,075 9,597 7,020

--	--	--

2,640 2,763 16,608

--	--	--	--	--

14,356 2,318 2,763 25,615 7,020

--	--

16,608 2,763

	H	
--	---	--

16,608 4,518 7,020

--	--	--	--	--	--

14,356 2,075 1,504 52,068 2,640 25,615



502

$$\begin{array}{r} 502 \\ \times 9 \\ \hline \end{array}$$

376

$$\begin{array}{r} 376 \\ \times 4 \\ \hline \end{array}$$

921

$$\begin{array}{r} 921 \\ \times 3 \\ \hline \end{array}$$

415

$$\begin{array}{r} 415 \\ \times 5 \\ \hline \end{array}$$

330

$$\begin{array}{r} 330 \\ \times 8 \\ \hline \end{array}$$

4,518

H

B

O

A

N

122

$$\begin{array}{r} 122 \\ \times 19 \\ \hline \end{array}$$

457

$$\begin{array}{r} 457 \\ \times 21 \\ \hline \end{array}$$

346

$$\begin{array}{r} 346 \\ \times 48 \\ \hline \end{array}$$

194

$$\begin{array}{r} 194 \\ \times 74 \\ \hline \end{array}$$

270

$$\begin{array}{r} 270 \\ \times 26 \\ \hline \end{array}$$

L

R

T

C

E

1,299

$$\begin{array}{r} 1,299 \\ \times 3 \\ \hline \end{array}$$

5,123

$$\begin{array}{r} 5,123 \\ \times 5 \\ \hline \end{array}$$

4,339

$$\begin{array}{r} 4,339 \\ \times 12 \\ \hline \end{array}$$

Y

S

I



ADDING & SUBTRACTING FRACTIONS – CLUE 3

Discover the next clue by adding and subtracting the fractions below. Use your reduced (simplified) 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!)

--	--	--	--

$$\frac{5}{8} \quad \frac{7}{12} \quad \frac{21}{50} \quad \frac{7}{50}$$

--	--	--

$$\frac{5}{7} \quad \frac{2}{11} \quad \frac{7}{50}$$

--	--	--

$$1\frac{1}{10} \quad \frac{1}{4} \quad \frac{5}{8}$$

--	--	--	--	--	--

$$\frac{1}{9} \quad \frac{2}{11} \quad \frac{1}{2} \quad \frac{7}{50} \quad \frac{1}{3} \quad 1$$

--	--

$$\frac{1}{12} \quad \frac{8}{11}$$

--

$$\frac{2}{11}$$

--	--	--	--	--	--	--

$$\frac{1}{6} \quad \frac{1}{4} \quad 1\frac{1}{10} \quad \frac{7}{50} \quad \frac{5}{8} \quad \frac{1}{3} \quad \frac{2}{3}$$



Add or subtract the fractions below. Reduce (simplify) your answers to the lowest terms possible.

$$\frac{1}{4} + \frac{1}{4} = \frac{\quad}{\quad}$$

U

$$\frac{5}{100} + \frac{9}{100} = \frac{\quad}{\quad}$$

S

$$\frac{7}{11} + \frac{1}{11} = \frac{\quad}{\quad}$$

Y

$$\frac{3}{7} + \frac{2}{7} = \frac{\quad}{\quad}$$

W

$$\frac{10}{12} - \frac{3}{12} = \frac{\quad}{\quad}$$

H

$$\frac{8}{9} - \frac{7}{9} = \frac{\quad}{\quad}$$

C

$$\frac{6}{11} - \frac{4}{11} = \frac{\quad}{\quad}$$

A

$$\frac{2}{3} - \frac{1}{3} = \frac{\quad}{\quad}$$

E

$$\frac{2}{15} + \frac{8}{15} = \frac{\quad}{\quad}$$

R

$$\frac{5}{10} + \frac{6}{10} = \frac{\quad}{\quad}$$

N

$$\frac{5}{9} + \frac{4}{9} = \frac{\quad}{\quad}$$

D

$$\frac{19}{50} + \frac{2}{50} = \frac{\quad}{\quad}$$

I

$$\frac{3}{4} - \frac{2}{4} = \frac{\quad}{\quad}$$

O

$$\frac{11}{12} - \frac{10}{12} = \frac{\quad}{\quad}$$

B

$$\frac{6}{8} - \frac{1}{8} = \frac{\quad}{\quad}$$

T

$$\frac{10}{12} - \frac{8}{12} = \frac{\quad}{\quad}$$

M



LONG DIVISION – CLUE 4

Discover the next clue by solving the division questions 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

--	--	--

50 12 R 2 118

--	--	--	--

47 101 9 R 2 90

--

19

--	--	--	--	--

12 R 1 225 19 101 20

--	--

12 R 2 47

--	--	--

12 R 1 12 R 2 91

--

4 R 4

--	--	--	--	--

10 R 6 19 9 R 2 90 50

--	--	--	--	--	--	--

248 7 R 2 19 90 101 9 R 2 11 R 3

--	--	--	--	--

9 R 2 12 R 2 225 12 R 1 248



$$2 \overline{)450}$$

R

$$5 \overline{)235}$$

F

$$6 \overline{)606}$$

I

$$4 \overline{)360}$$

D

$$3 \overline{)273}$$

M

$$5 \overline{)100}$$

L

$$7 \overline{)826}$$

U

$$4 \overline{)992}$$

H

$$9 \overline{)171}$$

A

$$7 \overline{)350}$$

Y

$$2 \overline{)25} \text{ R } \underline{\quad}$$

T

$$5 \overline{)58} \text{ R } \underline{\quad}$$

G

$$3 \overline{)29} \text{ R } \underline{\quad}$$

N

$$9 \overline{)96} \text{ R } \underline{\quad}$$

C

$$7 \overline{)32} \text{ R } \underline{\quad}$$

S

$$8 \overline{)58} \text{ R } \underline{\quad}$$

E

$$9 \overline{)110} \text{ R } \underline{\quad}$$

O





CONVERT DECIMALS TO FRACTIONS – CLUE 5

Discover the final clue by converting the decimals into fractions below. Reduce (simplify) your answers to the lowest terms possible. 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

$$0.4 = \frac{2}{5}$$

R

$$0.9 = \frac{\quad}{\quad}$$

H

$$0.2 = \frac{\quad}{\quad}$$

S

$$0.6 = \frac{\quad}{\quad}$$

G

$$0.1 = \frac{\quad}{\quad}$$

I

$$0.3 = \frac{\quad}{\quad}$$

E

$$0.04 = \frac{\quad}{\quad}$$

T

$$0.5 = \frac{\quad}{\quad}$$

C

$$0.05 = \frac{\quad}{\quad}$$

M

$$0.01 = \frac{\quad}{\quad}$$

K

$$0.08 = \frac{\quad}{\quad}$$

W

$$0.07 = \frac{\quad}{\quad}$$

N

$$0.7 = \frac{\quad}{\quad}$$

A

$$0.03 = \frac{\quad}{\quad}$$

D

$$0.21 = \frac{\quad}{\quad}$$

P

--	--	--

$\frac{1}{25}$ $\frac{9}{10}$ $\frac{3}{10}$

--	--	--	--	--	--	--	--

$\frac{1}{20}$ $\frac{1}{10}$ $\frac{1}{5}$ $\frac{1}{5}$ $\frac{1}{10}$ $\frac{7}{100}$ $\frac{3}{5}$

--	--	--	--	--	--	--	--

$\frac{1}{2}$ $\frac{7}{10}$ $\frac{1}{20}$ $\frac{21}{100}$ $\frac{3}{10}$ **R** $\frac{2}{5}$ $\frac{1}{5}$

--	--	--	--

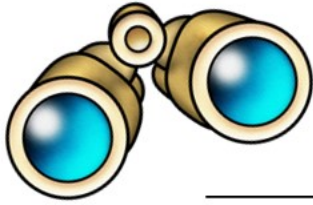
$\frac{2}{25}$ $\frac{3}{10}$ **R** $\frac{2}{5}$ $\frac{3}{10}$

--	--	--	--	--	--	--	--	--	--

$\frac{1}{100}$ $\frac{1}{10}$ $\frac{3}{100}$ $\frac{7}{100}$ $\frac{7}{10}$ $\frac{21}{100}$ $\frac{21}{100}$ $\frac{3}{10}$ $\frac{3}{100}$



SOLVE THE MYSTERY: CASE OF THE MISSING CAMPERS



Detective

_____ *(your name)*



Has discovered that the Missing Campers are at:



Teacher to check and tick

Clues Checklist:

Clue 1

Clue 2

Clue 3

Clue 4

Clue 5



Well done! You correctly solved where the missing campers are located at! Thanks to your hard work, you were able to quickly find and rescue them from being in any more danger. The campers are super thankful for your help.



Oops! No, that is not where the missing campers can be found. Check your work and try again!



ANSWER KEY – CLUE 1

Elimination Note: Cross off Echoes Lake, The Fairy Huts, and The Druid's Temple.

T H E Y

4,731 7,775 936 3,677

A R E

1,022 5,879 936

N O T

18,894 2,019 4,731

A T

1,022 4,731

E C H O E S

936 8,131 7,775 2,019 936 55,326

L A K E

6,759 1,022 31,728 936

T H E

4,731 7,775 936

F A I R Y

7,221 1,022 8,948 5,879 3,677

H U T S

7,775 11,450 4,731 55,326

O R

2,019 5,879

T H E

4,731 7,775 936

D R U I D S

47,221 5,879 11,450 8,948 47,221 55,326



T E M P L E

4,731 936 7,199 6,576 6,759 936

4,562

1,336

5,993

2,191

3,955

4,006

7,211

+ 2,659

+ 5,240

+ 1,782

+ 5,008

+ 1,924

+ 4,125

+ 4,239

7,221

6,576

7,775

7,199

5,879

8,131

11,450

F

P

H

M

R

C

U

2,182

5,210

9,243

7,214

6,791

9,597

8,003

- 1,246

- 3,191

- 4,512

- 6,192

- 3,114

- 649

- 1,244

936

2,019

4,731

1,022

3,677

8,948

6,759

E

O

T

A

Y

I

L

24,562

98,125

43,127

65,153

+ 22,659

- 79,231

+ 12,199

- 33,425

47,221

18,894

55,326

31,728

D

N

S

K



ANSWER KEY – CLUE 2

Elimination Note: Cross off all locations that are close to the cabins.

T H E Y

16,608 4,518 7,020 3,897

A R E

2,075 9,597 7,020

N O T

2,640 2,763 16,608

C L O S E

14,356 2,318 2,763 25,615 7,020

T O

16,608 2,763

T H E

16,608 4,518 7,020

C A B I N S

14,356 2,075 1,504 52,068 2,640 25,615



502

X 9

376

X 4

921

X 3

415

X 5

330

X 8

~~4,518~~

H

~~1,504~~

B

~~2,763~~

O

~~2,075~~

A

~~2,640~~

N

122

X 19

457

X 21

346

X 48

194

X 74

270

X 26

~~2,318~~

L

~~9,597~~

R

~~16,608~~

T

~~14,356~~

C

~~7,020~~

E

1,299

X 3

5,123

X 5

4,339

X 12

~~3,897~~

Y

~~25,615~~

S

~~52,068~~

I



ANSWER KEY – CLUE 3

Elimination Note: Cross off all rows marked with 'caused by a monster.'

T	H	I	S
---	---	---	---

$$\frac{5}{8} \quad \frac{7}{12} \quad \frac{21}{50} \quad \frac{7}{50}$$

W	A	S
---	---	---

$$\frac{5}{7} \quad \frac{2}{11} \quad \frac{7}{50}$$

N	O	T
---	---	---

$$1\frac{1}{10} \quad \frac{1}{4} \quad \frac{5}{8}$$

C	A	U	S	E	D
---	---	---	---	---	---

$$\frac{1}{9} \quad \frac{2}{11} \quad \frac{1}{2} \quad \frac{7}{50} \quad \frac{1}{3} \quad 1$$

B	Y
---	---

$$\frac{1}{12} \quad \frac{8}{11}$$

A

$$\frac{2}{11}$$

M	O	N	S	T	E	R
---	---	---	---	---	---	---

$$\frac{1}{6} \quad \frac{1}{4} \quad 1\frac{1}{10} \quad \frac{7}{50} \quad \frac{5}{8} \quad \frac{1}{3} \quad \frac{2}{3}$$



Add or subtract the fractions below. Reduce (simplify) your answers to the lowest terms possible.

$$\frac{1}{4} + \frac{1}{4} = \frac{1}{2}$$

U

$$\frac{5}{100} + \frac{9}{100} = \frac{7}{50}$$

S

$$\frac{7}{11} + \frac{1}{11} = \frac{8}{11}$$

Y

$$\frac{3}{7} + \frac{2}{7} = \frac{5}{7}$$

W

$$\frac{10}{12} - \frac{3}{12} = \frac{7}{12}$$

H

$$\frac{8}{9} - \frac{7}{9} = \frac{1}{9}$$

C

$$\frac{6}{11} - \frac{4}{11} = \frac{2}{11}$$

A

$$\frac{2}{3} - \frac{1}{3} = \frac{1}{3}$$

E

$$\frac{2}{15} + \frac{8}{15} = \frac{2}{3}$$

R

$$\frac{5}{10} + \frac{6}{10} = 1\frac{1}{10}$$

N

$$\frac{5}{9} + \frac{4}{9} = 1$$

D

$$\frac{19}{50} + \frac{2}{50} = \frac{21}{50}$$

I

$$\frac{3}{4} - \frac{2}{4} = \frac{1}{4}$$

O

$$\frac{11}{12} - \frac{10}{12} = \frac{1}{12}$$

B

$$\frac{6}{8} - \frac{1}{8} = \frac{5}{8}$$

T

$$\frac{10}{12} - \frac{8}{12} = \frac{1}{6}$$

M



ANSWER KEY – CLUE 4

Elimination Note: Cross off all rows marked with east, west, and south.

Y	O	U
50	12 R 2	118

F	I	N	D
47	101	9 R 2	90

A
19

T	R	A	I	L
12 R 1	225	19	101	20

O	F
12 R 2	47

T	O	M
12 R 1	12 R 2	91

S
4 R 4

C	A	N	D	Y
10 R 6	19	9 R 2	90	50

H	E	A	D	I	N	G
248	7 R 2	19	90	101	9 R 2	11 R 3

N	O	R	T	H
9 R 2	12 R 2	225	12 R 1	248



$$\begin{array}{r} 225 \\ 2 \overline{) 450} \\ \underline{400} \\ 50 \\ \underline{50} \\ 0 \end{array}$$

R

$$\begin{array}{r} 47 \\ 5 \overline{) 235} \\ \underline{100} \\ 135 \\ \underline{135} \\ 0 \end{array}$$

F

$$\begin{array}{r} 101 \\ 6 \overline{) 606} \\ \underline{360} \\ 246 \\ \underline{246} \\ 0 \end{array}$$

I

$$\begin{array}{r} 90 \\ 4 \overline{) 360} \\ \underline{360} \\ 0 \end{array}$$

D

$$\begin{array}{r} 91 \\ 3 \overline{) 273} \\ \underline{273} \\ 0 \end{array}$$

M

$$\begin{array}{r} 20 \\ 5 \overline{) 100} \\ \underline{100} \\ 0 \end{array}$$

L

$$\begin{array}{r} 118 \\ 7 \overline{) 826} \\ \underline{700} \\ 126 \\ \underline{126} \\ 0 \end{array}$$

U

$$\begin{array}{r} 248 \\ 4 \overline{) 992} \\ \underline{800} \\ 192 \\ \underline{192} \\ 0 \end{array}$$

H

$$\begin{array}{r} 19 \\ 9 \overline{) 171} \\ \underline{171} \\ 0 \end{array}$$

A

$$\begin{array}{r} 50 \\ 7 \overline{) 350} \\ \underline{350} \\ 0 \end{array}$$

Y

$$\begin{array}{r} 12 \text{ R } 1 \\ 2 \overline{) 25} \\ \underline{20} \\ 5 \end{array}$$

T

$$\begin{array}{r} 11 \text{ R } 3 \\ 5 \overline{) 58} \\ \underline{50} \\ 8 \end{array}$$

G

$$\begin{array}{r} 9 \text{ R } 2 \\ 3 \overline{) 29} \\ \underline{27} \\ 2 \end{array}$$

N

$$\begin{array}{r} 10 \text{ R } 6 \\ 9 \overline{) 96} \\ \underline{90} \\ 6 \end{array}$$

C

$$\begin{array}{r} 4 \text{ R } 4 \\ 7 \overline{) 32} \\ \underline{28} \\ 4 \end{array}$$

S

$$\begin{array}{r} 7 \text{ R } 2 \\ 8 \overline{) 58} \\ \underline{56} \\ 2 \end{array}$$

E

$$\begin{array}{r} 12 \text{ R } 2 \\ 9 \overline{) 110} \\ \underline{108} \\ 2 \end{array}$$

O





ANSWER KEY – CLUE 5

Elimination Note: Cross off all 'lost' rows.

$$0.4 = \frac{2}{5}$$

R

$$0.9 = \frac{9}{10}$$

H

$$0.2 = \frac{1}{5}$$

S

$$0.6 = \frac{3}{5}$$

G

$$0.1 = \frac{1}{10}$$

I

$$0.3 = \frac{3}{10}$$

E

$$0.04 = \frac{1}{25}$$

T

$$0.5 = \frac{1}{2}$$

C

$$0.05 = \frac{1}{20}$$

M

$$0.01 = \frac{1}{100}$$

K

$$0.08 = \frac{2}{25}$$

W

$$0.07 = \frac{7}{100}$$

N

$$0.7 = \frac{7}{10}$$

A

$$0.03 = \frac{3}{100}$$

D

$$0.21 = \frac{21}{100}$$

P

T	H	E
$\frac{1}{25}$	$\frac{9}{10}$	$\frac{3}{10}$

M	I	S	S	I	N	G
$\frac{1}{20}$	$\frac{1}{10}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{10}$	$\frac{7}{100}$	$\frac{3}{5}$

C	A	M	P	E	R	S
$\frac{1}{2}$	$\frac{7}{10}$	$\frac{1}{20}$	$\frac{21}{100}$	$\frac{3}{10}$	$\frac{2}{5}$	$\frac{1}{5}$

W	E	R	E
$\frac{2}{25}$	$\frac{3}{10}$	$\frac{2}{5}$	$\frac{3}{10}$

K	I	D	N	A	P	P	E	D
$\frac{1}{100}$	$\frac{1}{10}$	$\frac{3}{100}$	$\frac{7}{100}$	$\frac{7}{10}$	$\frac{21}{100}$	$\frac{21}{100}$	$\frac{3}{10}$	$\frac{3}{100}$



ELIMINATION PROCESS

Location of the Missing Campers	Lost or Kidnapped?	WHO/WHAT Caused their disappearance?	Close or Far from the Cabins?	Positional Direction
Big Foot's Den	Kidnapped	A monster	Far	North
Monster's Chamber	Kidnapped	A monster	Far	West
The Enchanted Pond	Lost	Scared by a swarm of bugs	Close	East
The Wishing Tree	Lost	Trapped	Close	South
The Druid's Temple	Kidnapped	Trapped	Far	West
The Fairy Huts	Kidnapped	Trapped	Close	East
Momo's Lair	Kidnapped	A monster	Far	North
The Hermit's Hideaway	Lost	Trapped	Far	North
The Pine Mirage	Kidnapped	A monster	Close	South
Echoes Lake	Lost	Scared by a swarm of bugs	Close	East
The Hush-Hush Mushroom	Lost	Made ill from toxic plants	Far	North
The Restricted Log Cabins	Lost	Trapped	Close	West
The Vanishing Shrub	Lost	Made ill from toxic plants	Close	South
The Whispering Lake	Kidnapped	A monster	Far	South
The Wizard's Waterfall	Lost	Scared by a swarm of bugs	Far	North
The Emerald Everglade	Lost	Made ill from toxic plants	Far	West
The Lying Labyrinth	Lost	Trapped	Close	East
The Witch Bird's Tricking Tree	Kidnapped	A dangerous animal	Far	West
 The Grumpy Gnomes' Village	Kidnapped	Trapped	Far	North
Riddle Cottage	Lost	Made ill from toxic plants	Far	South
The Wolf's Cave	Kidnapped	A dangerous animal	Far	West

On the answer sheets you will find a comment about what needs to be crossed off. Please refer to the color of the font and the color of the shaded rows to show which locations have been crossed off from that clue.

MYSTERY ANSWER: The Grumpy Gnomes' Village

MATH MYSTERY

CASE OF THE GRADUATION GREMLINS

GRADE

4



Mrs J's Resource Creations ©

Teacher Resource Instructions

PREPARATION

Print and copy pages 4-12 for your students (choose between [page 7](#) or [8](#) depending on your measurement unit preference) . 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!

<PLEASE CLICK HERE to ACCESS the WORKSHEETS DIGITALLY ON GOOGLE SLIDES>

- You will need to make a digital copy for each student
- Your students will need to be in 'edit' mode not 'present' mode to enter answers into the boxes.

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 or watch the [optional video hook](#).

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 11, the teacher ticks off the 'Well done . . . ' box and the student can receive an Award (provided on page 18). 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.

[<View this blog post>](#) for more information about solving math mysteries.

ANSWERS

You will find the answer key on [pages 13-17](#). 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!).

If you need help, have any questions, or notice an error in my work please email me on 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, "They took my awards, certificates, memory books, games, prizes, hats, and even my microphone! How are my students going to graduate now? They are so disappointed with these mischievous gremlins trying to ruin the end of the 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 the 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. 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!**

MULTIPLICATION FACTS – CLUE 1

Crack the code by completing the multiplication 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!

44	33	60	80	24

					U	
33	80	20	60	32	12	44

	U		
18	12	42	44

81	60

132	35	32	42	60

44	32

44	33	60

42	132	33	32	32	35

$$3 \times 4 = \underline{12}$$

U

$$5 \times 7 = \underline{\quad}$$

L

$$4 \times 6 = \underline{\quad}$$

R

$$8 \times 10 = \underline{\quad}$$

I

$$2 \times 9 = \underline{\quad}$$

M

$$11 \times 3 = \underline{\quad}$$

H

$$12 \times 5 = \underline{\quad}$$

E

$$6 \times 7 = \underline{\quad}$$

S

$$8 \times 4 = \underline{\quad}$$

O

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

B

$$4 \times 11 = \underline{\quad}$$

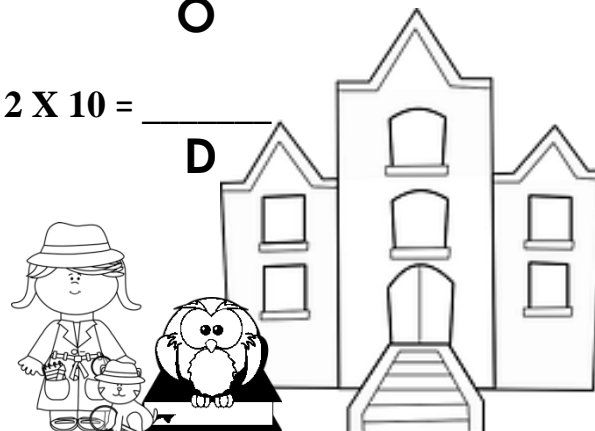
T

$$2 \times 10 = \underline{\quad}$$

D

$$12 \times 11 = \underline{\quad}$$

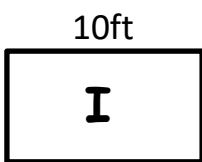
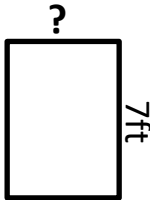
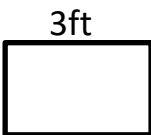





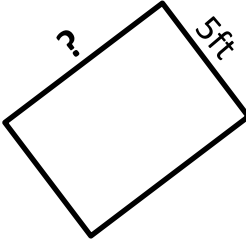

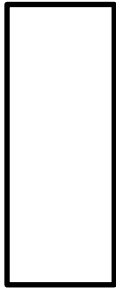

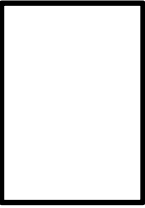

C



Customary Units

AREA – CLUE 2

Reveal a clue about the Gremlins hideout place by using the information given for each rectangle 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!

 Area: 30ft^2 ? = 3ft	 Area: 28ft^2	 Area: 6ft^2	 Area: 100ft^2	
 Area: 72ft^2	 Area: 24ft^2	 Area: 77ft^2	 Area: 18ft^2	 Area: 50ft^2
 Area: 110ft^2	 Area: 30ft^2	 Area: 36ft^2	 Area: 120ft^2	 Area: 50ft^2

3ft = I

6ft = L

2ft = I

9ft = A

12ft = C

11ft = P

4ft = T

1ft = E

8ft = A

7ft = O

10ft = D

20ft = C

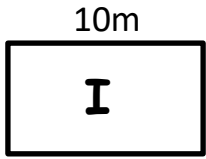
5ft = S

15ft = L

Metric Units

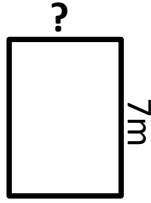
AREA – CLUE 2

Reveal a clue about the Gremlins hideout place by using the information given for each rectangle 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!

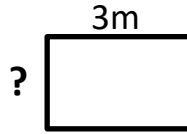


$$\text{Area: } 30\text{m}^2$$

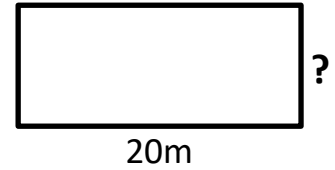
$$? = 3\text{m}$$



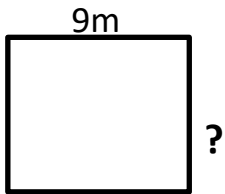
$$\text{Area: } 28\text{m}^2$$



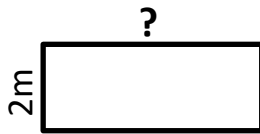
$$\text{Area: } 6\text{m}^2$$



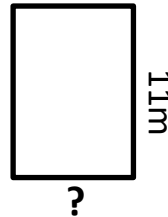
$$\text{Area: } 100\text{m}^2$$



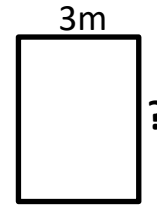
$$\text{Area: } 72\text{m}^2$$



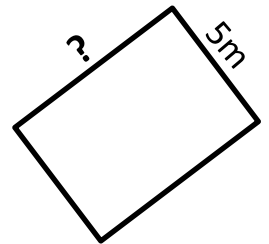
$$\text{Area: } 24\text{m}^2$$



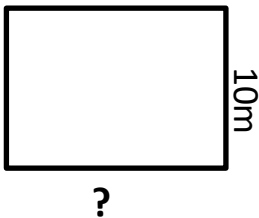
$$\text{Area: } 77\text{m}^2$$



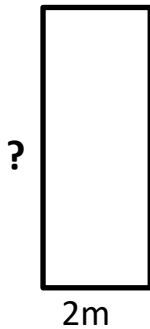
$$\text{Area: } 18\text{m}^2$$



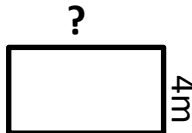
$$\text{Area: } 50\text{m}^2$$



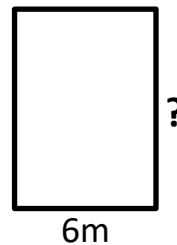
$$\text{Area: } 110\text{m}^2$$



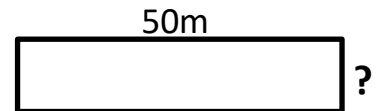
$$\text{Area: } 30\text{m}^2$$



$$\text{Area: } 36\text{m}^2$$



$$\text{Area: } 120\text{m}^2$$



$$\text{Area: } 50\text{m}^2$$

$$3\text{m} = \text{I}$$

$$6\text{m} = \text{L}$$

$$2\text{m} = \text{I}$$

$$9\text{m} = \text{A}$$

$$12\text{m} = \text{C}$$

$$11\text{m} = \text{P}$$

$$4\text{m} = \text{T}$$

$$1\text{m} = \text{E}$$

$$8\text{m} = \text{A}$$

$$7\text{m} = \text{O}$$

$$10\text{m} = \text{D}$$

$$20\text{m} = \text{C}$$

$$5\text{m} = \text{S}$$

$$15\text{m} = \text{L}$$

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 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!

Do you think that it is possible that the gremlins are hiding in the school? $\frac{3}{5}$	My sister said that she saw a gang of gremlins running with all of the graduation items towards Chuck's Car Yard. $\frac{7}{10}$	There has been some gossip around town that they are hiding in a medium sized place south of Mathhattan Elementary. $\frac{3}{4}$	I'd say they are probably also who are responsible for our poor Internet connection lately, have you check in with the Local IT Company? $\frac{1}{5}$
I think I saw a couple of gremlins hiding a stash of certificates in a place in the northern direction. $\frac{1}{2}$	I saw this medium place that would be great for hiding all of the items they took. $\frac{11}{20}$	They are probably lurking in one of those strange places in the south. $\frac{1}{10}$	I'm pretty sure the gremlins have been meddling with my computer every night! $\frac{1}{4}$
My guess is that the gremlins are probably hiding in a large place. $\frac{1}{100}$	I heard that gremlins are scared of the dark, so they wouldn't be hiding underground. $\frac{7}{100}$	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. $\frac{9}{10}$	I wouldn't be surprised if they were colluding with Mrs Frumpy and in fact hiding in her basement! $\frac{2}{5}$
The gremlins must be hiding underground to not be easily noticed or found with all of the items. $\frac{1}{7}$	The gremlins must be hiding in a small place, because they like confined spaces. $\frac{3}{10}$	I'm pretty sure I saw a gremlin running into the local IT company. $\frac{2}{25}$	Rumor has it that the gremlins are probably using Slimewort's abandoned lair. $\frac{4}{5}$

$$\frac{10}{100} = \quad \frac{50}{100} = \quad \frac{6}{10} = \quad \frac{10}{1000} = \quad \frac{7}{10} =$$

$$\frac{8}{100} = \quad \frac{200}{1000} = \quad \frac{80}{100} = \quad \frac{550}{1000} = \quad \frac{30}{100} =$$

$$\frac{900}{1000} = \quad \frac{25}{100} = \quad \frac{750}{1000} = \quad \frac{40}{100} = \quad \frac{70}{1000} =$$

DIVISION – CLUE 4

Crack the code by completing the division questions below. Use your answers (including the remainders if any) 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!

Remainders

$229 \div 8 = \underline{28} \text{ r } \underline{5}$
G

$980 \div 2 = \underline{\quad} \text{ r } \underline{\quad}$
D

$451 \div 5 = \underline{\quad} \text{ r } \underline{\quad}$
R

$127 \div 8 = \underline{\quad} \text{ r } \underline{\quad}$
I

$635 \div 7 = \underline{\quad} \text{ r } \underline{\quad}$
A

$720 \div 6 = \underline{\quad} \text{ r } \underline{\quad}$
T

$323 \div 8 = \underline{\quad} \text{ r } \underline{\quad}$
O

$808 \div 4 = \underline{\quad} \text{ r } \underline{\quad}$
F

$661 \div 2 = \underline{\quad} \text{ r } \underline{\quad}$
H

$509 \div 9 = \underline{\quad} \text{ r } \underline{\quad}$
M

$750 \div 3 = \underline{\quad} \text{ r } \underline{\quad}$
E

$909 \div 3 = \underline{\quad} \text{ r } \underline{\quad}$
P

$616 \div 8 = \underline{\quad} \text{ r } \underline{\quad}$
U

$700 \div 2 = \underline{\quad} \text{ r } \underline{\quad}$
L

$763 \div 4 = \underline{\quad} \text{ r } \underline{\quad}$
W

$401 \div 2 = \underline{\quad} \text{ r } \underline{\quad}$
S

$392 \div 4 = \underline{\quad} \text{ r } \underline{\quad}$
N

G						
28 r 5	90 r 1	250	56 r 5	350	15 r 7	98

202	40 r 3	40 r 3	120	303	90 r 1	15 r 7	98	120	200 r 1

190 r 3	250	90 r 1	250

202	40 r 3	77	98	490

						G
330 r 1	250	90 r 5	490	15 r 7	98	28 r 5

200 r 1	40 r 3	77	120	330 r 1

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!

$$\begin{array}{r} 2,310 \\ + 2,225 \\ \hline 4,535 \end{array}$$

T								
---	--	--	--	--	--	--	--	--

$$\begin{array}{r} 1,304 \\ + 2,102 \\ \hline \end{array}$$

$$\begin{array}{r} 5,632 \\ + 3,024 \\ \hline \end{array}$$

$$\begin{array}{r} 4,720 \\ + 1,320 \\ \hline \end{array}$$

$$\begin{array}{r} 1,980 \\ + 3,615 \\ \hline \end{array}$$

$$\begin{array}{r} 6,344 \\ + 1,311 \\ \hline \end{array}$$

$$\begin{array}{r} 1,089 \\ + 2,423 \\ \hline \end{array}$$

$$\begin{array}{r} 7,639 \\ + 270 \\ \hline \end{array}$$

$$\begin{array}{r} 4,782 \\ + 4,031 \\ \hline \end{array}$$

$$\begin{array}{r} 7,500 \\ + 1,098 \\ \hline \end{array}$$

$$\begin{array}{r} 3,661 \\ + 5,209 \\ \hline \end{array}$$

$$\begin{array}{r} 1,975 \\ + 1,499 \\ \hline \end{array}$$

$$\begin{array}{r} 8,179 \\ + 192 \\ \hline \end{array}$$

$$\begin{array}{r} 3,722 \\ + 4,356 \\ \hline \end{array}$$

$$\begin{array}{r} 2,999 \\ + 4,589 \\ \hline \end{array}$$

$$\begin{array}{r} 5,473 \\ + 2,308 \\ \hline \end{array}$$

$$\begin{array}{r} 7,684 \\ + 591 \\ \hline \end{array}$$

$$\begin{array}{r} 1,308 \\ + 3,485 \\ \hline \end{array}$$

$$\begin{array}{r} 1,076 \\ + 6,655 \\ \hline \end{array}$$

$$\begin{array}{r} 2,596 \\ + 445 \\ \hline \end{array}$$

$$\begin{array}{r} 3,250 \\ + 3,250 \\ \hline \end{array}$$

$$\begin{array}{r} 7,000 \\ + 2,000 \\ \hline \end{array}$$

$$\begin{array}{r} 6,118 \\ + 1,284 \\ \hline \end{array}$$

$$\begin{array}{r} 4,992 \\ + 2,164 \\ \hline \end{array}$$

$$\begin{array}{r} 4,050 \\ + 1,600 \\ \hline \end{array}$$

$$\begin{array}{r} 1,500 \\ + 1,500 \\ \hline \end{array}$$

$$\begin{array}{r} 1,683 \\ + 3,296 \\ \hline \end{array}$$

$$\begin{array}{r} 5,024 \\ + 2,416 \\ \hline \end{array}$$

$$\begin{array}{r} 1,095 \\ + 4,130 \\ \hline \end{array}$$

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

4,535 = T

3,406 = H

7,156 = T

7,402 = S

8,078 = E

7,588 = L

3,041 = F

7,655 = A

8,598 = U

5,650 = O

8,813 = M

7,781 = A

7,909 = E

8,371 = B

4,793 = G

6,040 = P

3,000 = R

3,512 = C

8,656 = E

6,500 = O

7,731 = E

5,225 = E

4,535 = T

4,979 = A

9,000 = R

3,474 = T

8,275 = R

7,440 = G

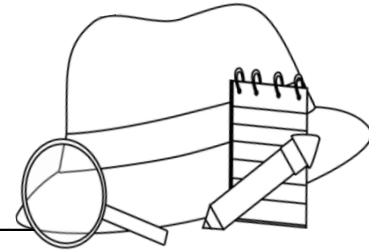
8,870 = S

5,595 = L

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 multiplication 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
44	33	60	80	24

Cross off all places that are far from the school.

H	I	D	E	O	U	T
33	80	20	60	32	12	44

M	U	S	T
18	12	42	44

B	E
81	60

C	L	O	S	E
132	35	32	42	60

T	O
44	32

T	H	E
44	33	60

S	C	H	O	O	L
42	132	33	32	32	35

$$3 \times 4 = \underline{12}$$

U

$$5 \times 7 = \underline{35}$$

L

$$4 \times 6 = \underline{24}$$

R

$$8 \times 10 = \underline{80}$$

I

$$2 \times 9 = \underline{18}$$

M

$$11 \times 3 = \underline{33}$$

H

$$12 \times 5 = \underline{60}$$

E

$$6 \times 7 = \underline{42}$$

S

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

O

$$9 \times 9 = \underline{81}$$

B

$$4 \times 11 = \underline{44}$$

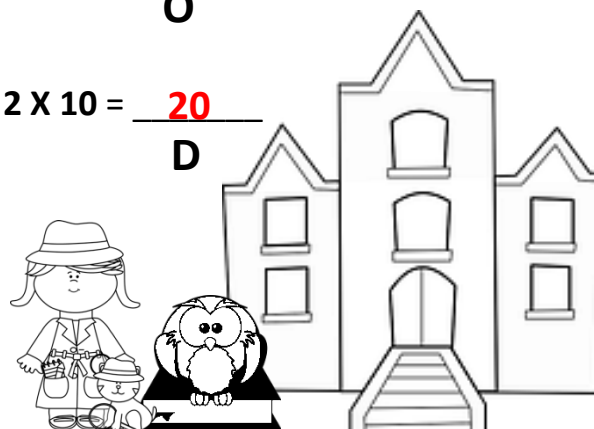
T

$$2 \times 10 = \underline{20}$$

D

$$12 \times 11 = \underline{132}$$

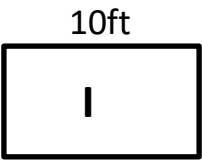
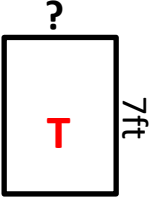
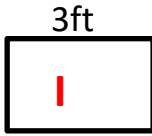

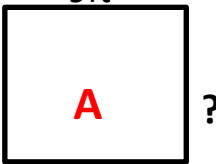
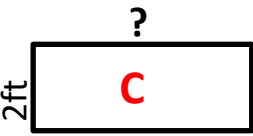
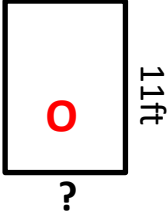
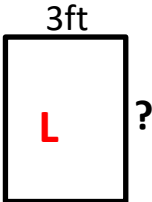
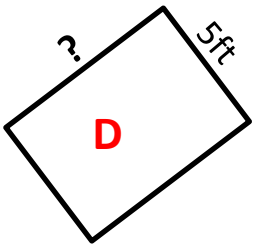
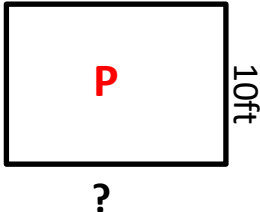
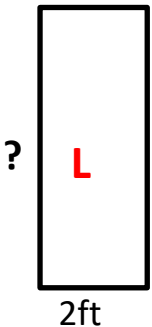
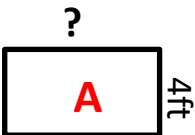
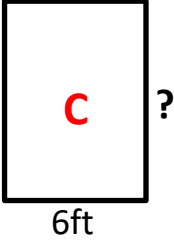
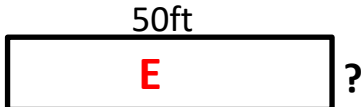
C



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!

 <u>Area: 30ft²</u> ? = 3ft	 <u>Area: 28ft²</u> ? = 4ft	 <u>Area: 6ft²</u> ? = 2ft	 <u>Area: 100ft²</u> ? = 5ft	
 <u>Area: 72ft²</u> ? = 8ft	 <u>Area: 24ft²</u> ? = 12ft	 <u>Area: 77ft²</u> ? = 7ft	 <u>Area: 18ft²</u> ? = 6ft	 <u>Area: 50ft²</u> ? = 10ft
 <u>Area: 110ft²</u> ? = 11ft	 <u>Area: 30ft²</u> ? = 15ft	 <u>Area: 36ft²</u> ? = 9ft	 <u>Area: 120ft²</u> ? = 20ft	 <u>Area: 50ft²</u> ? = 1ft

3ft = I

6ft = L

2ft = I

9ft = A

12ft = C

11ft = P

4ft = T

1ft = E

8ft = A

7ft = O

10ft = D

20ft = C

5ft = S

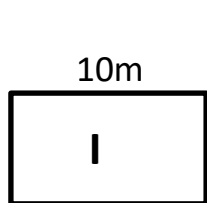
15ft = L

Cross off places that are not cold.

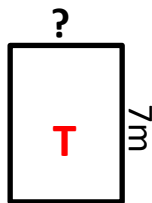
Metric Units

ANSWER SHEET – CLUE 2

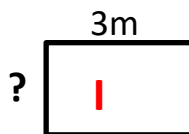
Reveal a clue about the Gremlins hideout place by using the information given for each shape and solving the length of the side marked with a question mark (?). Use your answers to find which letter to place inside each shape. The first one has been done for you!



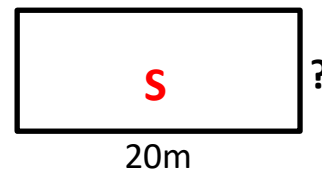
$$\begin{aligned} \text{Area: } & 30\text{m}^2 \\ ? & = 3\text{m} \end{aligned}$$



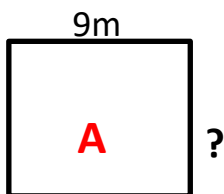
$$\begin{aligned} \text{Area: } & 28\text{m}^2 \\ ? & = 4\text{m} \end{aligned}$$



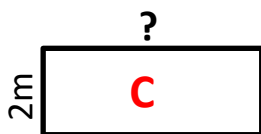
$$\begin{aligned} \text{Area: } & 6\text{m}^2 \\ ? & = 2\text{m} \end{aligned}$$



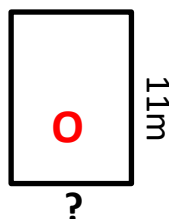
$$\begin{aligned} \text{Area: } & 100\text{m}^2 \\ ? & = 5\text{m} \end{aligned}$$



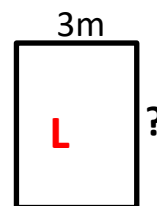
$$\begin{aligned} \text{Area: } & 72\text{m}^2 \\ ? & = 8\text{m} \end{aligned}$$



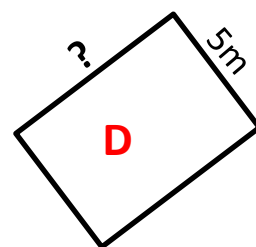
$$\begin{aligned} \text{Area: } & 24\text{m}^2 \\ ? & = 12\text{m} \end{aligned}$$



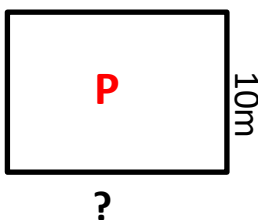
$$\begin{aligned} \text{Area: } & 77\text{m}^2 \\ ? & = 7\text{m} \end{aligned}$$



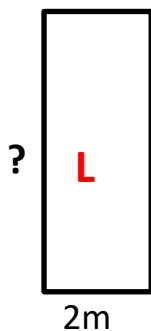
$$\begin{aligned} \text{Area: } & 18\text{m}^2 \\ ? & = 6\text{m} \end{aligned}$$



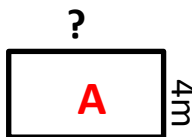
$$\begin{aligned} \text{Area: } & 50\text{m}^2 \\ ? & = 10\text{m} \end{aligned}$$



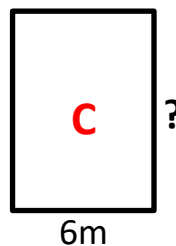
$$\begin{aligned} \text{Area: } & 110\text{m}^2 \\ ? & = 11\text{m} \end{aligned}$$



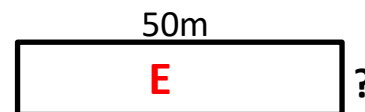
$$\begin{aligned} \text{Area: } & 30\text{m}^2 \\ ? & = 15\text{m} \end{aligned}$$



$$\begin{aligned} \text{Area: } & 36\text{m}^2 \\ ? & = 9\text{m} \end{aligned}$$



$$\begin{aligned} \text{Area: } & 120\text{m}^2 \\ ? & = 20\text{m} \end{aligned}$$



$$\begin{aligned} \text{Area: } & 50\text{m}^2 \\ ? & = 1\text{m} \end{aligned}$$

$$3\text{m} = \text{I}$$

$$6\text{m} = \text{L}$$

$$2\text{m} = \text{I}$$

$$9\text{m} = \text{A}$$

$$12\text{m} = \text{C}$$

$$11\text{m} = \text{P}$$

$$4\text{m} = \text{T}$$

$$1\text{m} = \text{E}$$

$$8\text{m} = \text{A}$$

$$7\text{m} = \text{O}$$

$$10\text{m} = \text{D}$$

$$20\text{m} = \text{C}$$

$$5\text{m} = \text{S}$$

$$15\text{m} = \text{L}$$

Cross off places
that are not cold.

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>$\frac{3}{5}$</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>$\frac{7}{10}$</p>	<p>There has been some gossip around town that they are hiding in a medium place south of Mattan Elementary.</p> <p>$\frac{3}{4}$</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>$\frac{1}{5}$</p>
<p>I think I saw a couple of gremlins hiding a stash of computers in a place in the northern direction.</p> <p>$\frac{1}{2}$</p>	<p>I saw this medium place that would be great for hiding all of the items that I took.</p> <p>$\frac{11}{20}$</p>	<p>They are probably lurking in one of those medium places in the south.</p> <p>$\frac{1}{10}$</p>	<p>I'm pretty sure the gremlins have been meddling with my computer every night!</p> <p>$\frac{1}{4}$</p>
<p>My guess is that the gremlins are probably hiding in a large place.</p> <p>$\frac{1}{100}$</p>	<p>I heard that gremlins are scared of the dark, so they would be hiding underground.</p> <p>$\frac{7}{100}$</p>	<p>My Aunt said that she spoke to a man who said that he saw a bunch of gremlins running in the graduation items of a medium place.</p> <p>$\frac{9}{10}$</p>	<p>It would be surprising if they were colluding with the IT company. In fact, I don't think they are!</p> <p>$\frac{2}{5}$</p>
<p>The gremlins must be hiding underground to not be easily noticed or found with all of the items.</p> <p>$\frac{1}{7}$</p>	<p>The gremlins must be hiding in a medium place, like computers.</p> <p>$\frac{3}{10}$</p>	<p>Are I saw a gremlin running into the IT company.</p> <p>$\frac{2}{25}$</p>	<p>Rumor has it that the gremlins are probably using the IT company's abandoned computers.</p> <p>$\frac{4}{5}$</p>

Cross off any places that are not underground.

- | | | | | |
|-----------------------------------|----------------------------------|----------------------------------|------------------------------------|-----------------------------------|
| $\frac{10}{100} = \frac{1}{10}$ | $\frac{50}{100} = \frac{1}{2}$ | $\frac{6}{10} = \frac{3}{5}$ | $\frac{10}{1000} = \frac{1}{100}$ | $\frac{7}{10} = \frac{7}{10}$ |
| $\frac{8}{100} = \frac{2}{25}$ | $\frac{200}{1000} = \frac{1}{5}$ | $\frac{80}{100} = \frac{4}{5}$ | $\frac{550}{1000} = \frac{11}{20}$ | $\frac{30}{100} = \frac{3}{10}$ |
| $\frac{900}{1000} = \frac{9}{10}$ | $\frac{25}{100} = \frac{1}{4}$ | $\frac{750}{1000} = \frac{3}{4}$ | $\frac{40}{100} = \frac{2}{5}$ | $\frac{70}{1000} = \frac{7}{100}$ |

Name: _____

Case of the Graduation Gremlins

ANSWER SHEET— CLUE 4

Crack the code by completing the division questions below. Use your answers (including the remainders if any) 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!

Remainders

$$229 \div 8 = \frac{28}{G} r \frac{5}{G}$$

$$980 \div 2 = \frac{490}{D} r \frac{0}{D}$$

$$451 \div 5 = \frac{90}{R} r \frac{1}{R}$$

$$127 \div 8 = \frac{15}{I} r \frac{7}{I}$$

$$635 \div 7 = \frac{90}{A} r \frac{5}{A}$$

$$720 \div 6 = \frac{120}{T} r \frac{0}{T}$$

$$323 \div 8 = \frac{40}{O} r \frac{3}{O}$$

$$808 \div 4 = \frac{202}{F} r \frac{0}{F}$$

$$661 \div 2 = \frac{330}{H} r \frac{1}{H}$$

$$509 \div 9 = \frac{56}{M} r \frac{5}{M}$$

$$750 \div 3 = \frac{250}{E} r \frac{0}{E}$$

$$909 \div 3 = \frac{303}{P} r \frac{0}{P}$$

$$616 \div 8 = \frac{77}{U} r \frac{0}{U}$$

$$700 \div 2 = \frac{350}{L} r \frac{0}{L}$$

$$763 \div 4 = \frac{190}{W} r \frac{3}{W}$$

$$401 \div 2 = \frac{200}{S} r \frac{1}{S}$$

$$392 \div 4 = \frac{98}{N} r \frac{0}{N}$$

G	R	E	M	L	I	N
28 r 5	90 r 1	250	56 r 5	350	15 r 7	98

F	O	O	T	P	R	I	N	T	S
202	40 r 3	40 r 3	120	303	90 r 1	15 r 7	98	120	200 r 1

W	E	R	E
190 r 3	250	90 r 1	250

F	O	U	N	D
202	40 r 3	77	98	490

H	E	A	D	I	N	G
330 r 1	250	90 r 5	490	15 r 7	98	28 r 5

S	O	U	T	H
200 r 1	40 r 3	77	120	330 r 1

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!

$\begin{array}{r} 2310 \\ + 2225 \\ \hline 4535 \end{array}$	$\begin{array}{r} 1304 \\ + 2102 \\ \hline 3406 \end{array}$	$\begin{array}{r} 5632 \\ + 3024 \\ \hline 8656 \end{array}$
T	H	E

$\begin{array}{r} 4720 \\ + 1320 \\ \hline 6040 \end{array}$	$\begin{array}{r} 1980 \\ + 3615 \\ \hline 5595 \end{array}$	$\begin{array}{r} 6344 \\ + 1311 \\ \hline 7655 \end{array}$	$\begin{array}{r} 1089 \\ + 2423 \\ \hline 3512 \end{array}$	$\begin{array}{r} 7639 \\ + 270 \\ \hline 7909 \end{array}$
P	L	A	C	E

$\begin{array}{r} 4782 \\ + 4031 \\ \hline 8813 \end{array}$	$\begin{array}{r} 7500 \\ + 1098 \\ \hline 8598 \end{array}$	$\begin{array}{r} 3661 \\ + 5209 \\ \hline 8870 \end{array}$	$\begin{array}{r} 1975 \\ + 1499 \\ \hline 3474 \end{array}$
M	U	S	T

$\begin{array}{r} 8179 \\ + 192 \\ \hline 8371 \end{array}$	$\begin{array}{r} 3722 \\ + 4356 \\ \hline 8078 \end{array}$
B	E

$\begin{array}{r} 2999 \\ + 4589 \\ \hline 7588 \end{array}$	$\begin{array}{r} 5473 \\ + 2308 \\ \hline 7781 \end{array}$	$\begin{array}{r} 7684 \\ + 591 \\ \hline 8275 \end{array}$	$\begin{array}{r} 1308 \\ + 3485 \\ \hline 4793 \end{array}$	$\begin{array}{r} 1076 \\ + 6655 \\ \hline 7731 \end{array}$
L	A	R	G	E

$\begin{array}{r} 2596 \\ + 445 \\ \hline 3041 \end{array}$	$\begin{array}{r} 3250 \\ + 3250 \\ \hline 6500 \end{array}$	$\begin{array}{r} 7000 \\ + 2000 \\ \hline 9000 \end{array}$
F	O	R

$\begin{array}{r} 6118 \\ + 1284 \\ \hline 7402 \end{array}$	$\begin{array}{r} 4992 \\ + 2164 \\ \hline 7156 \end{array}$	$\begin{array}{r} 4050 \\ + 1600 \\ \hline 5650 \end{array}$	$\begin{array}{r} 1500 \\ + 1500 \\ \hline 3000 \end{array}$	$\begin{array}{r} 1683 \\ + 3296 \\ \hline 4979 \end{array}$	$\begin{array}{r} 5024 \\ + 2416 \\ \hline 7440 \end{array}$	$\begin{array}{r} 1095 \\ + 4130 \\ \hline 5225 \end{array}$
S	T	O	R	A	G	E

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

4535 = T

3406 = H

7156 = T

7402 = S

8078 = E

7588 = L

3041 = F

7655 =

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

5650 = O

8813 = M

7781 =

8371 = B

4793 = G

6040 =

3512 = C

8656 = E

6500 =

7731 = E

5225 = E

4535 =

4979 = A

9000 = R

3474 =

8275 = R

7440 = G

8870 = S

5595 = L

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
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

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