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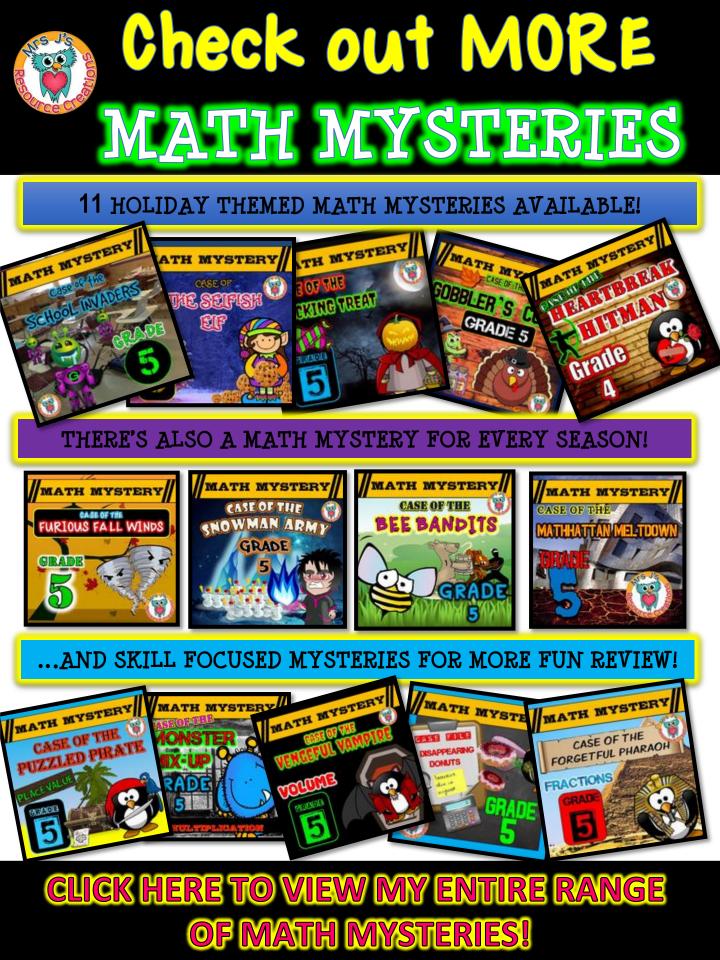
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**Mrs J's Resource Creations** 



# Teacher Resource Instructions

#### PREPARATION

Print and copy pages 5-12 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 Suspects' page handy.
- If it is a difficult skill or something not yet done with your students, demonstration and a lesson before completing that clue is recommended.
- You could get students to work independently, or in pairs/groups.
  IMPORTANT: <u>The clues must be completed in the order I have arranged them in i.e. 1-5!</u>

#### HOW TO USE

Read through the article on page 5 'Math Mystery: Case of The Super Bad Superhero' to set up the activity and engage students.

Instruct students that they will need to keep referring back to their Possible Suspects list after solving each clue. Whole rows must be eliminated at a time, the final row remaining will reveal who the super bad Superhero is.

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: 'A lady was able to scare off the antihero with cookies .' So, in this example, students can conclude that the super bad Superhero's weakness is cookies, so they must cross out all superheroes who do NOT have cookies as a weakness.

Once students have correctly completed all of the clues, only one suspect will remain, and that suspect is the super bad Superhero. On page 12, the teacher ticks off the 'Well done ... ' box and the student can receive an Award (provided on page 19) if they declare the correct suspect. If a student gets the wrong suspect, 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 who the super bad Superhero is. You will find these on pages 13-18. This includes the elimination process of rows post each clue.

#### AWARDS

On page 19 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 applicable.

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

JJResourceCreations@gmail.com

Thanks! 🙂

# Date: \_\_\_\_\_\_ MATH MYSTERY: \_\_\_\_\_\_

It is no secret that many superheroes reside on the island of Mathhattan. They usually help fight against crime and provide protection for us all. Sadly, something has changed and someone with superpowers is beginning to cause lots of trouble. This super bad superhero has begun to scare, intimidate and kidnap citizens! The police are powerless, and are unsure as to which superhero we can truly trust anymore...it could be any one of them! People no longer feel safe and are concerned this antihero is unstoppable.

Patrick, the Mayor of Mathhattan, addressed the public earlier this morning with the following speech:

"Stay inside your homes, shut your windows and lock your doors, keep your phones handy for help and be wary of anyone wearing a mask. The MBI (Mathhattan Bureau of Investigation) and other secret sources have recently confirmed that this villain is actually one of who we call superheroes of Mathhattan. It is a mystery to us which superhero to trust and who we cannot. It is going to take some of our finest math detectives to work with the MBI on this serious case; no superhero can be involved. Hopefully, if we can discover who this terrible superhero is, we can put a stop to this chaos and release all of the captured citizens. Until we can reveal who is behind this, we ask that you hand over any evidence or information that you come across to help solve this mystery."

As the mayor stepped off the podium, a large puff of smoke blasted out of nowhere! As the smoke began to settle a shadowy silhouette took hold of the mayor and before anyone could do anything. . . "POOF!" They both disappeared. The Mayor is now a prisoner of this super bad superhero.

#### MATH DETECTIVE NEEDED TO REVEAL THE SUPER BAD SUPERHERO!

The chaos continues throughout the town; the disguised antihero is doing a good job at keeping his/her identity hidden while scaring and capturing citizens. Everyone in Mathhattan is counting on you to take a closer look at all those we call superheroes and unveil the phony! Upon discovery, alert the good superheros as to who the villain is so that they can help with the arrest and rescue the trapped mayor and citizens!

Be careful not to become a victim yourself!

# **POSSIBLE SUSPECTS**

Superhero Name	Main Superpower	Extra Superpower	Gender M/F	Hair Colour	Weakness
Lion Man	Super Speed	Shape Shifting	Male	Orange	Cookies
Dare Girl	Invisibility	Super Strength	Female	Purple	Silver
Mega Mage	Teleportation	Poisonous Burps	Male	Green	Cookies
Owl Man	Invisibility	Shape Shifting	Male	Purple	Sunlight
Blitzfire	Energy Blasts	Super Strength	Female	Orange	Silver
Thunder Hawk	Super Speed	Sonic Scream	Male	Purple	Sunlight
Razor	Energy Blasts	Sonic Scream	Male	Orange	Cookies
Starlight	Invisibility	Flight	Female	Green	Sunlight
Lady Bug	Teleportation	Shape Shifting	Female	Purple	Silver
The Giggler	Mind Control	Poisonous Burps	Male	Green	Cookies
Captain Nucleus	Super Speed	Flight	Male	Orange	Silver
Mrs. Amazing	Mind Control	Sonic Scream	Female	Purple	Sunlight
Doctor Bolt	Mind Control	Super Strength	Male	Orange	Silver
Splash	Energy Blasts	Poisonous Burps	Male	Orange	Cookies
Zapman	Teleportation	Flight	Male	Purple	Silver
Pizza Peter	Super Speed	Poisonous Burps	Male	Green	Sunlight
Titanicus	Energy Blasts	Super Strength	Male	Green	Cookies
Typhoon	Super Speed	Sonic Scream	Female	Orange	Silver
Blinker	Teleportation	Poisonous Burps	Female	Purple	Silver
Major Fury	Super Speed	Flight	Male	Green	Sunlight
Colossal Crush	Invisibility	Super Strength	Male	Green	Cookies

Solve the clues and then cross the suspect rows off the list until only one suspect remains! The last suspect remaining is the Super Bad Superhero behind the trouble in Mathhattan! <u>Whole rows must be eliminated at a time</u>.

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Name:

#### CONVERT DECIMALS FROM EXPANDED FORM (Using Fractions) – CLUE 1

Discover an important clue by finding the standard decimal form of each expanded decimal form in the table . Use your answers to match and place the letters in the boxes to reveal the first 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. Т 1.82 4.15 8.78 1.62 6.15 5.1 5.1 0.75 6.15 7.88 T 0.53 0.75 7.88 7.88 2.04 1.82 4.09 5.1 3.7 **Expanded Decimal Form Standard Decimal Form** Letter

$1 X 1 + 8 X \frac{1}{10} + 2 X \frac{1}{100}$	1.82	Т
$6 X 1 + 1 X \frac{1}{10} + 5 X \frac{1}{100}$		I
$8 X 1 + 7 X \frac{1}{10} + 8 X \frac{1}{100}$		E
$7 X \frac{1}{10} + 5 X \frac{1}{100}$		A
$4 X 1 + 9 X \frac{1}{100}$		F
$4 X 1 + 1 X \frac{1}{10} + 5 X \frac{1}{100}$		н
$7 X 1 + 8 X \frac{1}{10} + 8 X \frac{1}{100}$		N
$3 X 1 + 7 X \frac{1}{10}$		У
$2 X 1 + 4 X \frac{1}{100}$		0
$5 X \frac{1}{10} + 3 X \frac{1}{100}$		С
$1 X 1 + 6 X \frac{1}{10} + 2 X \frac{1}{100}$		V
$5 X 1 + 1 X \frac{1}{10}$	30	L

Name: \_



Solve another important clue by completing the addition 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 has been done for you.** 

Ν 49.7 118 61.9 104 80.5 74 68.2 80.5 104 87.1 92.9 82 68.2 80.5 70.9 74 82 68.2 68.2 Ν 68.2 70.9 104 74 49.7 68.2 61.9 70.9 82 104 92.9 61.9 80.5 74 62.4 74 87.3 104 37.2 61.3 14.9 58.1 45.7 + 12.5 + 22.4 + 20.7 + 59.1 + 25.2 49.7 Ν S Η R Α 81.4 25.8 63.5 76.6 93.2 + 11.5 + 36.1 + 40.5 +10.5+ 24.8 Ι Ε Ρ 0 52.9 16.6 46.7 + 34.4+ 21.5 + 45.8 M

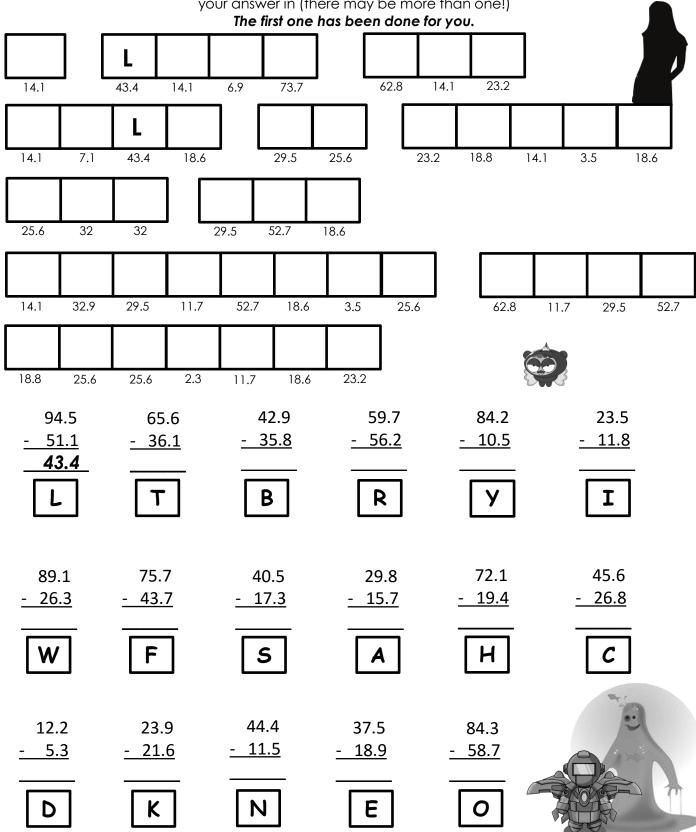
#### Name: \_

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# **SUBTRACTING DECIMALS – CLUE 3**

Solve another important clue by completing the 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!)

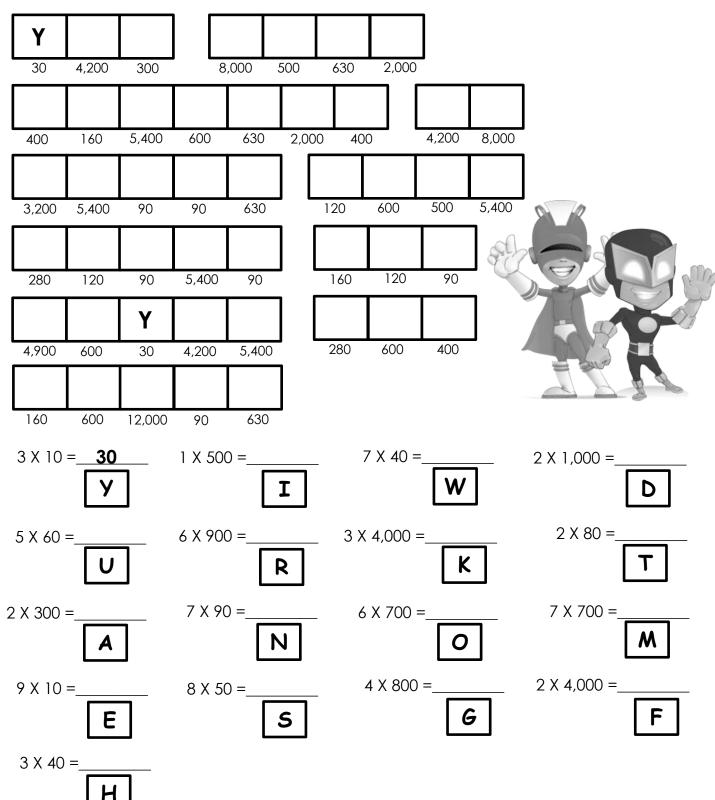


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#### **MULTIPLY NUMBERS ENDING IN ZEROES – CLUE 4**

Solve another important clue by completing 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 has been done for you.



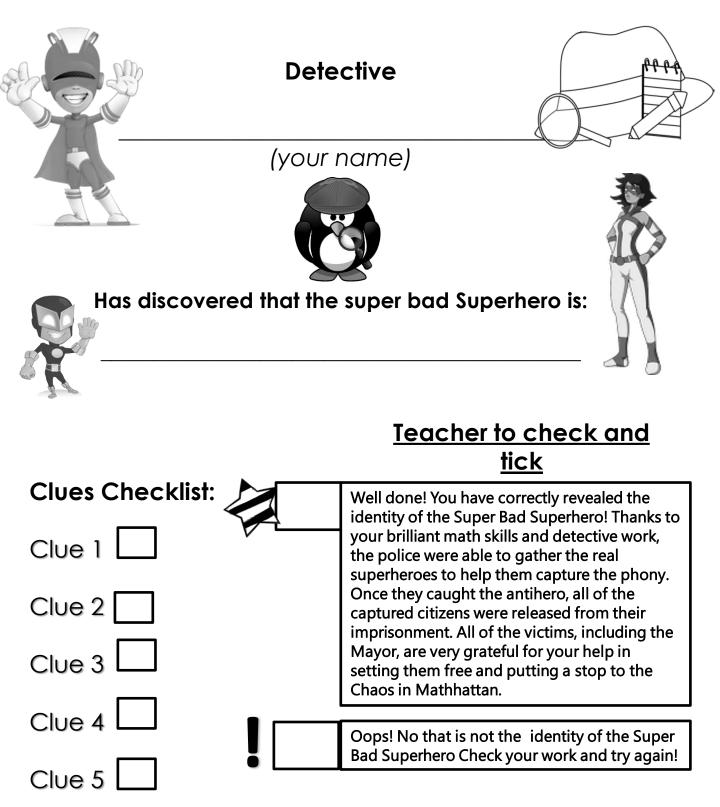
### **DIVIDING NUMBERS ENDING IN ZEROES – CLUE 5** <sup>3,000</sup>

In the grid below you will find a number of statements being texted to you, however, <u>only one of</u> <u>them is revealing the correct final clue</u>. Complete the division questions, 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!

The super bad Superhero uses invisibility to shock people with sudden energy blasts coming	The super bad Superhero uses super strength to throw a magical trap on victims and then teleports them to a secret	The super bad Superhero casts icy energy blasts to make victims stick to the floor and uses mind control to make them walk back to wherever	The super bad Superhero teleports behind victims and uses mind control to make them go to a prison of some sort.
out of nowhere. <b>5,000</b>	dungeon. <b>500</b>	this strange imprisonment is. <b>6,000</b>	20,000
The super bad Superhero uses poisonous burps to weaken victims, then teleports to make a fast get away.	The super bad Superhero uses super strength to lift cars with people in them and then uses the power of invisibility to make them disappear.	The super bad Superhero uses invisibility to stealth through the streets and uses super strength to keep everyone away.	The super bad Superhero uses electric energy blasts to destroy walls and then teleports victims inside to somewhere strange.
3,000	300	700	7,000
The super bad Superhero uses poisonous burps to make people faint and then casts mind control to make them walk to the hidden prison. <b>30</b>	The super bad Superhero uses super speed to catch victims without no one else noticing, then teleports them somewhere secret. <b>10,000</b>	The super bad Superhero casts a sonic scream to stun everyone around, and then uses teleportation to make a quick get away. <b>900</b>	The super bad Superhero travels around like a bug and then shapeshifts into human form to cast poisonous burps on everyone <b>2,000</b>

5,000 ÷ 1 =	5,600 ÷ 8 =	4,000 ÷ 2 =
60,000 ÷ 6 =	24,000 ÷ 4 =	900 ÷ 3 =
160,000 ÷ 8 =	270 ÷ 9 =	49,000 ÷ 7 =
2,500 ÷ 5 =	7,200 ÷ 8 =	

# SOLVE THE MYSTERY: CASE OF THE SUPER BAD SUPERHERO

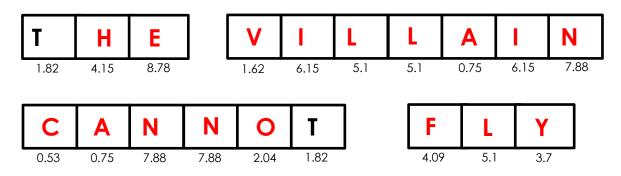




#### **ANSWER SHEET – CLUE 1**

Discover an important clue by finding the standard decimal form of each expanded decimal form in the table . Use your answers to match and place the letters in the boxes to reveal the first 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.



Expanded Decimal Form	Standard Decimal Form	Letter
$1 X 1 + 8 X \frac{1}{10} + 2 X \frac{1}{100}$	1.82	Т
$6 X 1 + 1 X \frac{1}{10} + 5 X \frac{1}{100}$	6.15	I
$8 X 1 + 7 X \frac{1}{10} + 8 X \frac{1}{100}$	8.78	E
$7 X \frac{1}{10} + 5 X \frac{1}{100}$	0.75	A
$4 X 1 + 9 X \frac{1}{100}$	4.09	F
$4 X 1 + 1 X \frac{1}{10} + 5 X \frac{1}{100}$	4.15	н
$7 X 1 + 8 X \frac{1}{10} + 8 X \frac{1}{100}$	7.88	N
$3 X 1 + 7 X \frac{1}{10}$	3.7	У
$2 X 1 + 4 X \frac{1}{100}$	2.04	0
$5 X \frac{1}{10} + 3 X \frac{1}{100}$	0.53	С
$1 X 1 + 6 X \frac{1}{10} + 2 X \frac{1}{100}$	1.62	V
$5 X 1 + 1 X \frac{1}{10}$	5.1	L

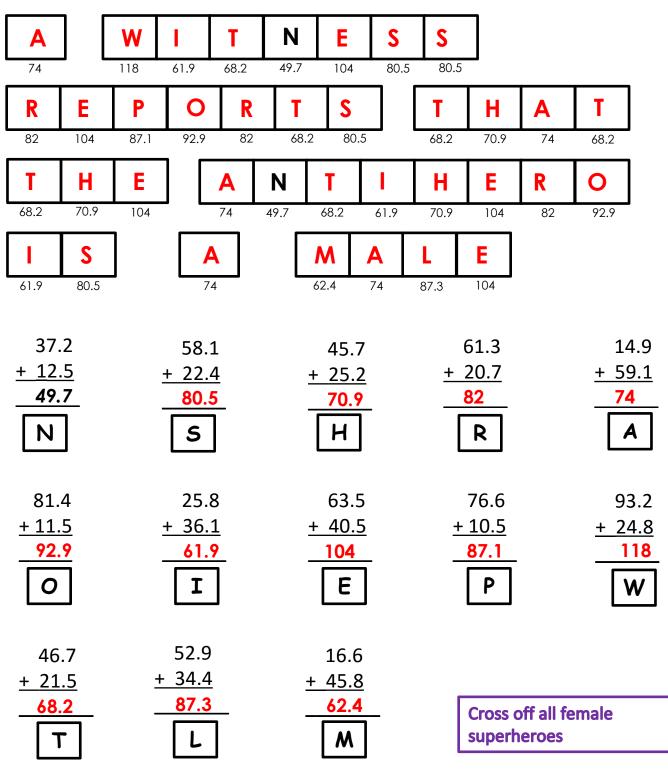
#### Cross off all superheroes who have flight as a superpower.



### **ANSWER SHEET – CLUE 2**

Solve another important clue by completing the addition 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 has been done for you.

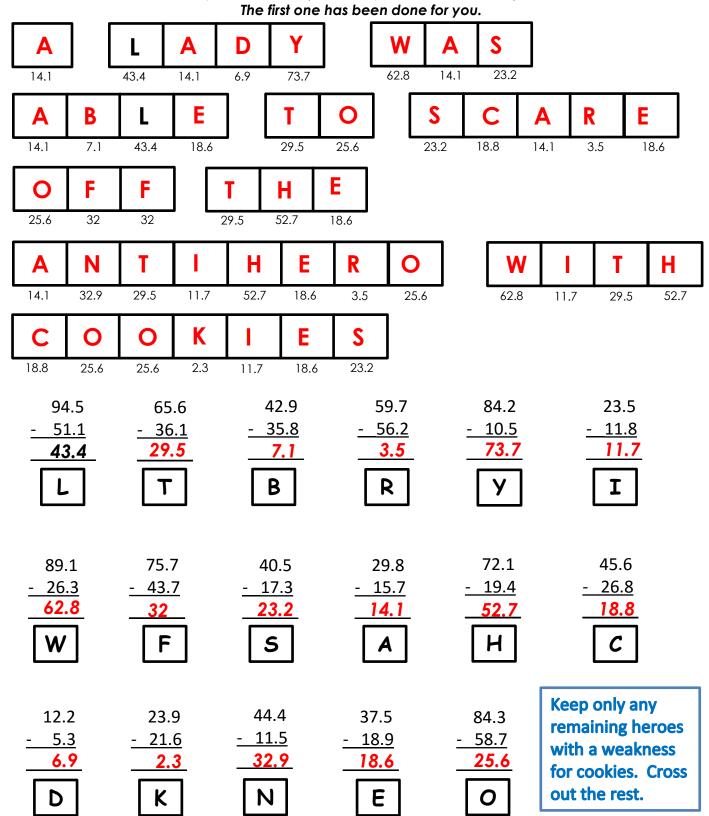


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## ANSWER SHEET – CLUE 3

Solve another important clue by completing the 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!)

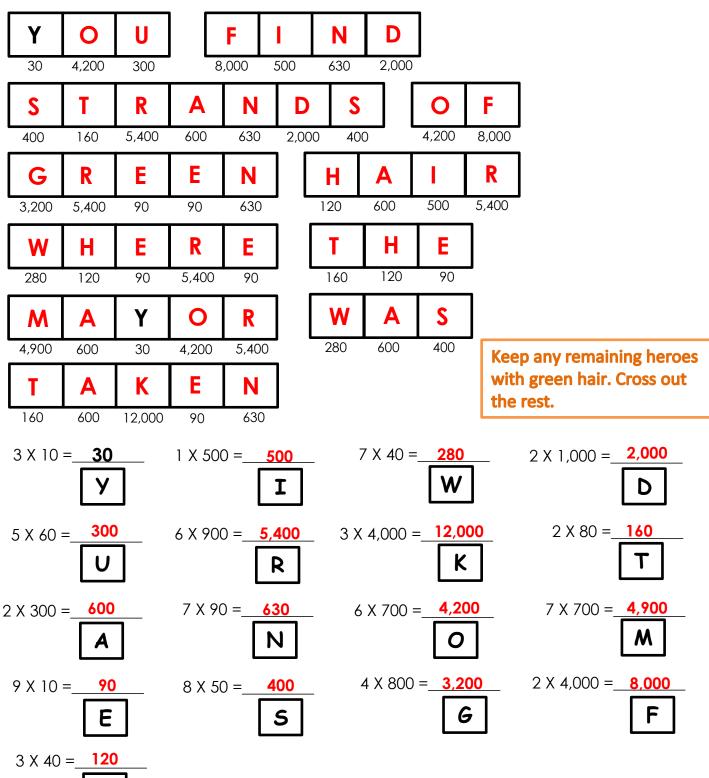


Name:

# ANSWER SHEET – CLUE 4

Solve another important clue by completing 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!)

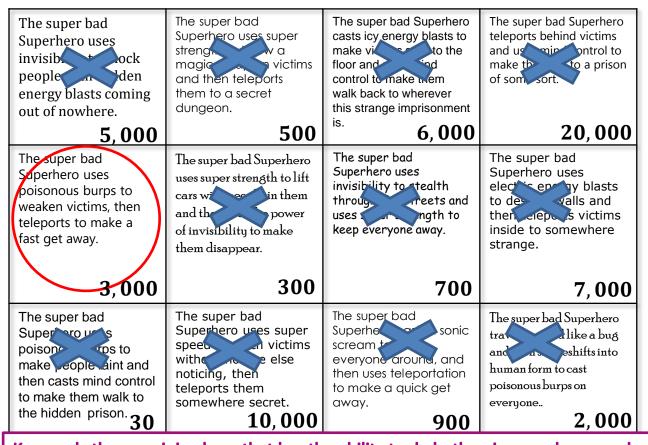
The first one has been done for you.



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# **ANSWER SHEET– CLUE 5**

In the grid below you will find a number of statements being texted to you, however, <u>only one of</u> <u>them is revealing the correct final clue</u>. Complete the division questions, 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!



	- ,	,			
Keep only the remaining hero that has the ability to do both poisonous burps and teleport. This should leave only one suspect remaining.					
5,000 ÷ 1 = <b>5,000</b>	5,600 ÷ 8 = <b>700</b>	4,000 ÷ 2 = <b>2,000</b>			
60,000 ÷ 6 = <u>10,000</u>	24,000 ÷ 4 = <b>6,000</b>	900 ÷ 3 = <b>300</b>			
160,000 ÷ 8 = <b>20,000</b>	270 ÷ 9 = <b>30</b>	49,000 ÷ 7 = <b>7,000</b>			

 $7.200 \div 8 = 900$ 

2,500 ÷ 5 = **500** 

3,000

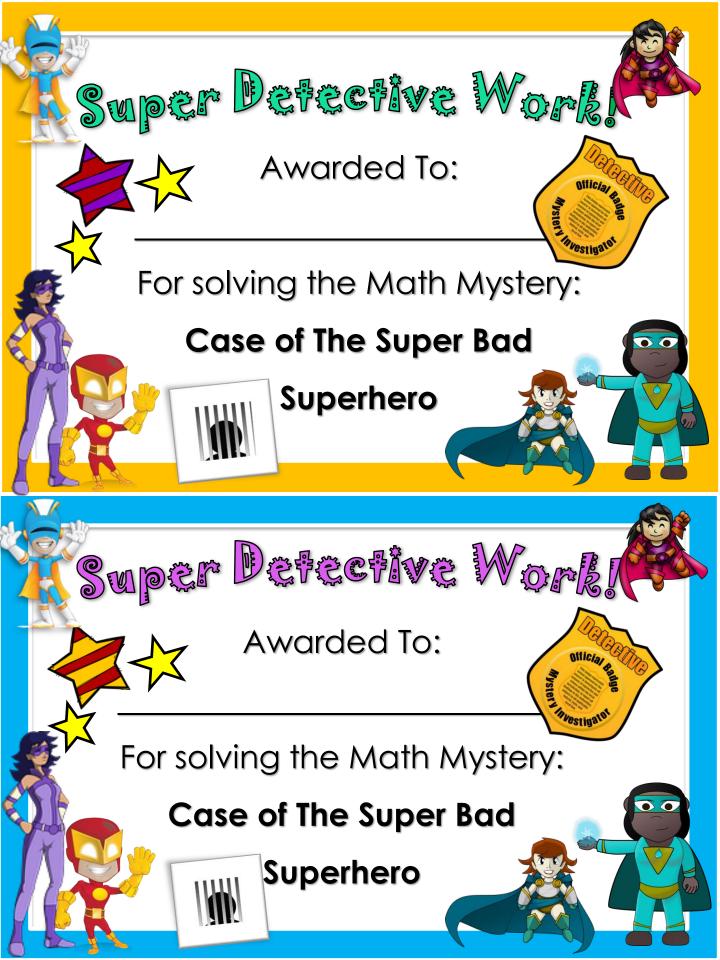
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**ELIMINATION PROCESS** 

Superhero Name	Main Superpower	Extra Superpower	Gender M/F	Hair Color	Weakness
Lion Man	Super Speed	Shape Shifting	Male	Orange	Cookies
Dare Girl	Invisibility	Super Strength	Female	Purple	Silver
Mega Mage	Teleportation	Poisonous Burps	Male	Green	Cookies
Owl Man	Invisibility	Shape Shifting	Male	Purple	Sunlight
Blitzfire	Energy Blasts	Super Strength	Female	Orange	Silver
Thunder Hawk	Super Speed	Sonic Scream	Male	Purple	Sunlight
Razor	Energy Blasts	Sonic Scream	Male	Orange	Cookies
Starlight	Invisibility	Flight	Female	Green	Sunlight
Lady Bug	Teleportation	Shape Shifting	Female	Purple	Silver
The Giggler	Mind Control	Poisonous Burps	Male	Green	Cookies
Captain Nucleus	Super Speed	Flight	Male	Orange	Silver
Mrs. Amazing	Mind Control	Sonic Scream	Female	Purple	Sunlight
Doctor Bolt	Mind Control	Super Strength	Male	Orange	Silver
Splash	Energy Blasts	Poisonous Burps	Male	Orange	Cookies
Zapman	Teleportation	Flight	Male	Purple	Silver
Pizza Peter	Super Speed	Poisonous Burps	Male	Green	Sunlight
Titanicus	Energy Blasts	Super Strength	Male	Green	Cookies
Typhoon	Super Speed	Sonic Scream	Female	Orange	Silver
Blinker	Teleportation	Poisonous Burps	Female	Purple	Silver
Major Fury	Super Speed	Flight	Male	Green	Sunlight
Colossal Crush	Invisibility	Super Strength	Male	Green	Cookies

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 suspect has been crossed off from that clue. MYSTERY ANSWER:

#### MEGA MAGE.



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by Krista Wallder

# CREDITS

# THANK YOU FOR GRAPHICS & FONTS

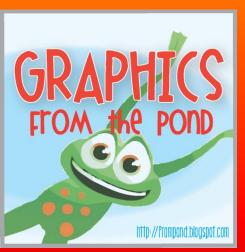


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