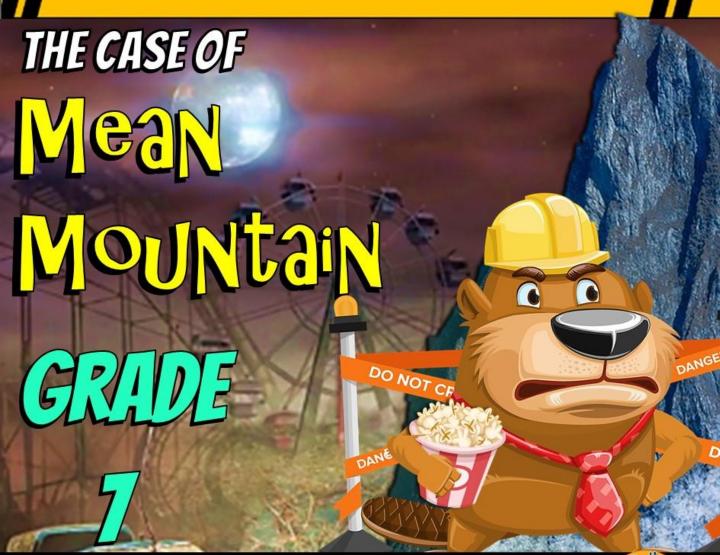
# MATH MYSTERY



Mean, Median & Mode Review



Mrs J's Resource Creations © 2019

### Thank You for Downloading



Thank you for your purchase. I sincerely hope both you and your students enjoy this product. Your feedback would be appreciated so that I can make my resources better. Please do not hesitate to contact me if you need me to make any adjustments to this resource for you.

### **Terms & Conditions**

- 1. Upon purchasing this product, the purchaser hereby agrees to adhere and be bound by the following terms and conditions of use. Mrs J's Resource Creations reserves all rights to enforce legal action for any breach or infringement of the below terms and conditions.
- 2. The contents of the material contained in the packet ("the Work") you have purchased is protected by copyright law as governed by the Australian *Copyright Act 1968* (Cth), the *Berne Convention for the Protection of Literary and Artistic Works* 1886, the *Universal Copyright Convention* 1952, and common law.
- 3. Mrs J's Resource Creations holds the exclusive right to use or authorize others to use the Work on such terms and conditions dictated by Mrs J's Resource Creations, and by the purchaser expressly agreeing to be bound by those terms and conditions.
- 4. The Work is permitted to be distributed to students for the purpose of education and learning.
- 5. The Work is limited to the use of one (1) teacher, tutor, or educational staff member ONLY. The purchaser is prohibited from sharing the Work with colleagues, tutors, or other education staff. The purchaser is to direct the other interested purchaser to directly purchase the work (or purchase an additional license) from the online store of Mrs J's Resource Creations.
- 6. The purchaser is permitted to share the cover image of the Work on its social media forum on the condition the purchaser links back to Mrs J's Resource Creations' online store on 'Teachers Pay Teachers' (<a href="http://www.teacherspayteachers.com/Store/Mrs-Js-Resources-Creations">http://www.teacherspayteachers.com/Store/Mrs-Js-Resources-Creations</a>) displaying the Work, the product or link to the product.
- 7. The purchaser is prohibited from reusing, modifying, appropriating, adapting and disseminating any of the Work, except in accordance with the terms and conditions of use and where express written consent is given by Mrs J's Resource Creations.
- 8. The purchaser is prohibited from creating or developing anything similar to the Work. In such circumstances where the purchaser is discovered to have used any intellectual property owned by Mrs J's Resource Creations, Mrs J's Resource Creations reserves all rights to commence civil proceedings and criminal prosecution for the infringement of copyright.
- 9. Any permitted reproduction of the Work, including fair dealing, must:
  - acknowledge the relevant rights of Mrs J's Resource Creations as the source of any such material reproduced;
  - reference the copyright or licence conditions under which the material is provided on this site.

10. In such circumstances where the purchaser has breached or infringed any of the above terms and conditions, Mrs J's Resource Creations reserve the right to press a claim, in law and in equity for damages, compensation, account for profits, injunctive relief, amongst other causes of action.

11. Mrs J's Resource Creations excludes complete liability whatsoever for damage and loss of any kind, including special, indirect or consequential loss, however caused, arising out from reliance of the content of this website. This includes your use or reliance on any third party content, links,

comments or advertisements. Your use of, or reliance on, any information in this website is entirely at your own risk, for which Mrs J's Resource Creations shall not be liable. 2

# 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 suspects' 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 don't 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.

#### **HOW TO USE**

Read through the article on page 4 'Math Mystery: The Case of Mean Mountain' 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.

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 not a dwarf or gnome suspect.' So, in this example, students must cross off all rows with suspects that are marked as a dwarf or gnome.

After completing all of the clues, if done correctly, only one suspect row will remain on the list, and that is culprit along with the correct device to fix! On page 11, the teacher ticks off the 'Well done . . . ' box and the student can receive an Award (provided on page 18) if they declare the correct answer to the mystery. 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**

I have provided answer sheets for all of the clues, as well as the answer to the whole mystery. You will find these on pages 12-17. This includes the elimination process guide of rows.

#### **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!). 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! ©

Mrs J's Resource Creations ©

# MATH MYSTERY: THE CASE OF MEAN MOUNTAIN

Date:		

It's been over fifty years that someone dared visit the park grounds of Wonder World. For those of you who are not aware of the abandoned amusement park, it was closed off due to an unresolved recurring dilemma with a large ride identified as the 'Mean Mountain.'

Many years ago, some folks who rode the Mean Mountain ride, vanished without a trace! The carriage would accelerate speed to 66 miles per hour as it entered the dark tunnel of the mountain. If it reached precisely that speed, no one would come out the other side of the mountain tunnel!

After Mathattan officials prohibited the ride from operating, several detectives and curious individuals ventured into the mysterious mountain hoping to find some answers. Unfortunately, none of them were able to explain the absurd disappearance of the carriages full of people. The only interesting fact that was observed was that if the carriage reached 67 miles per hour at the time of tunnel entry, people were safe. Also, if the carriage reached 65 miles per hour, people were safe. But, not 66 miles! Unfortunately, the variations of carriage speed were not entirely manageable, making it necessary to shut down the ride before more people were lost to the Mean Mountain!

Feeling as those the amusement park was somehow responsible for the disappearance of all those people, the community protested Wonder World's immediate shutdown. So, the park had no choice but to barricade the park entry, leaving it to rot. Demolishing the park was out of the question; just in case those people were ever able to come back home. But, till this day, no one has.

Over the years, many Mathattan citizens forgot about Wonder World and the Mean Mountain. Whispers of its atrocities have left some to believe it only to be a myth to scare children. That was until yesterday when a group of kids decided that they wanted to prove that the Mean Mountain was all a hoax. The daring kids managed to get the ride working and ventured deep into Mean Mountain's tunnel of darkness. Unfortunately, the kids who went on that ride disappeared too! The one left behind watching in shock and horror reported the incident! That same person happened to be one of Mathattan's brilliant Math Detectives. So, It seems that one of our best Math Detective's is taking on the case of Mean Mountain; determined to save their friends and all victims! Finally, there might be hope for everyone!

# Don't look away! Yes, the brilliant Math Detective is you!

After seeing the disappearance of your friends into Mean Mountain, you gather your wits, courage, and perseverance to crack this old unresolved case!

As you begin your investigation, a peculiar character pops out of nowhere to greet you, "Hello! You know that no one has ever been able to solve the mystery behind the Mean Mountain. We need to figure out who caused the problem to get to the bottom of this mess. Beware! It's dark inside the mountain tunnel! Take a torch! Good luck, Detective!"

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

The Case of Mean Mountain

## POSSIBLE SUSPECTS

Suspect	Job Title	Hideout	Used	Special device needed to fix
Professor Peach	Scientist	Secret Lab	Flux Transmitter	Glimmer Ore
Dr. Pepper	Scientist	Space Station	Vacuum Jumper	Wishing Wagon
Emmet Effort	Inventor	Garage	Flux Transmitter	Stint Shifter
Gimpy the Goblin	Inventor	Garage	Mirrored Hole	Vortex Shifter
Hilda the Dwarf	Miner	Cave	Geostep	Rock Connector
Wally Winkles	Inventor	Space Station	Vacuum Jumper	Epoch Detangler
Larry the Wizard	Sorcerer	Tower	Void Portal	Magic Detangler
Drugar the Dwarf	Miner	Tower	Void Portal	Flashback Spell
Sheldon the Shaman	Sorcerer	Cave	Teleportation Spell	U-turn Spell
Martin McWhy	Scientist	Garage	Vacuum Jumper	Dezorean Shifter
Dr. Victor Frankenstein	Inventor	Secret Lab	Mirrored Hole	Lighting Shifter
Dexter Fluke	Inventor	Secret Lab	Vacuum Jumper	Clock Connector
Viessa the Elf	Sorcerer	Cave	Teleportation Spell	Magnet Ore
Dr. Emily Brown	Inventor	Garage	Flux Transmitter	Hoverboard Shifter
Tabitha the Witch	Sorcerer	Cave	Vacuum Jumper	Fusion Connector
Klenzap the Gnome	Miner	Tower	Geostep	Plasma Ore
Dr. Hank Wu	Scientist	Space Station	Mirrored Hole	Motion Shifter
Bumblebore	Sorcerer	Cave	Void Portal	Atomic Shifter
Mex Luther	Scientist	Space Station	Mirrored Hole	Liptinite Ore
Dr. George Grief	Scientist	Cave	Flux Transmiiter	Warp Connector
Anastasia Stone	Sorcerer	Garage	Teleportation Spell	Twisted Ore
Aeon the Robot	Scientist	Space Station	Vacuum Jumper	Nova Detangler

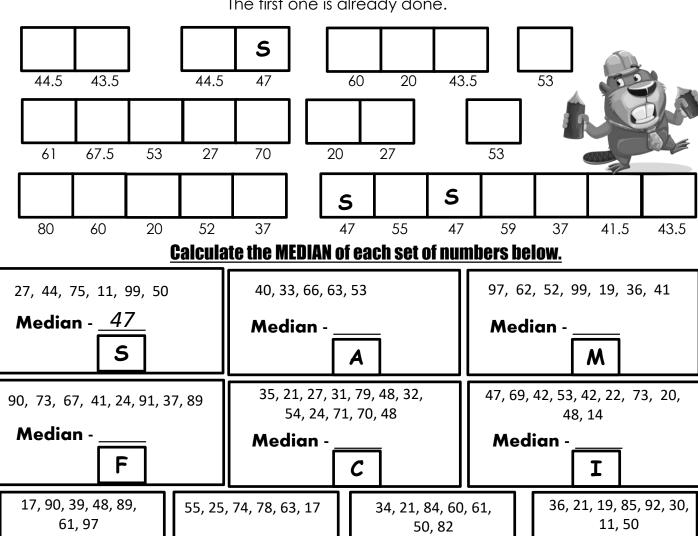
Solve the clues and then cross the suspects off the list until only one suspect remains! The last suspect remaining created the Mean Mountain phenomenon. Finding who created is the key to figuring out how to save the victims of the ride.

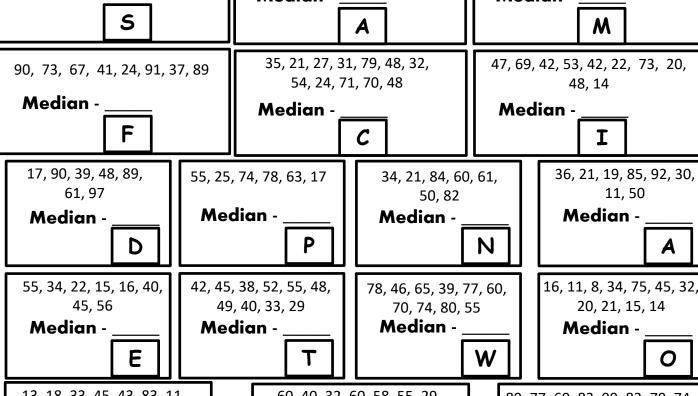
Whole rows must be eliminated at a time.

Name:			

### CALCULATE THE MEDIAN — CLUE 1

Calculate the **median** of each set of numbers to reveal the first clue. Use your answers to match and place the letters in the boxes to see what you discover! Put the letter in every box that it matches your answer in (there may be more than one!) The first one is already done.





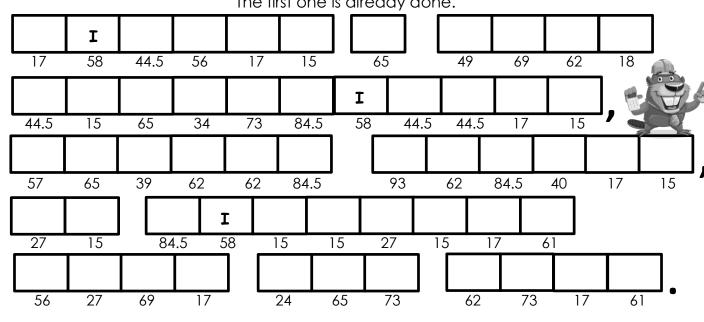
13, 18, 33, 45, 43, 83, 11, 19, 30, 29, 2, 25 Median -R

60, 40, 32, 60, 58, 55, 29, 61, 63, 27, 35 Median -

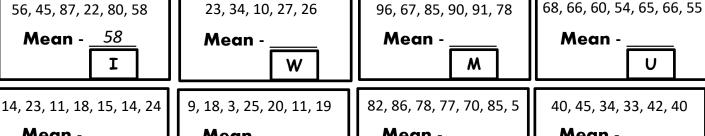
89, 77, 60, 83, 99, 82, 79, 74, 65, 87, 80 Median -G

### CALCULATE THE MEAN — CLUE 2

Calculate the **mean** of each set of numbers to reveal a clue. Use your answers to match and place the letters in the boxes to see what you discover! Put the letter in every box that it matches your answer in (there may be more than one!) The first one is already done.



### Calculate the MEAN of each set of numbers below.



Mean -Mean -Mean -Mean -Ε R C 90, 87, 94, 99, 97, 91, 93 78, 84, 65, 61, 72, 78 56, 34, 89, 90, 66, 60, 4 38, 31, 30, 33, 29, 41, 36

Mean -

43, 12, 16, 22, 18, 11, 4

N 65, 11, 45, 79, 40, 27 43, 77, 84, 83, 75, 71, 22 Mean -Mean -

Mean -

Mean -

Mean -

J

Н

50, 57, 62, 67, 49, 52, 55

Mean -X

S

Mean -

Mean -

28, 25, 25, 21, 29, 32, 29 49, 50, 43, 38, 55, 52, 56 34, 39, 30, 40, 43, 37, 57 68, 30, 34, 78, 88, 80, 49 Mean -

Mean -

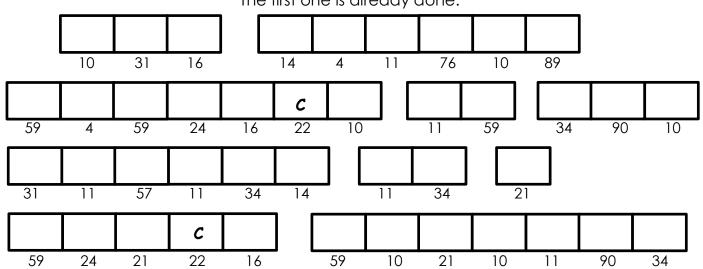
Mean -Ρ

The Case of Mean Mountain

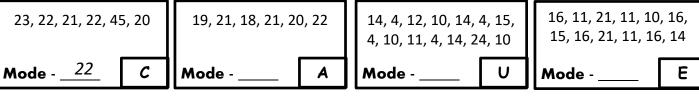
### **CALCULATE THE MODE – CLUE 3**

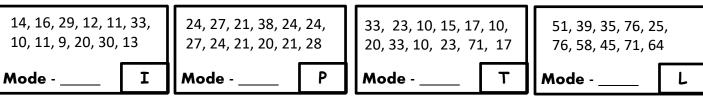
Calculate the **mode** of each set of numbers to reveal a clue. Use your answers to match and place the letters in the boxes to see what you discover! Put the letter in every box that it matches your answer in (there may be more than one!)

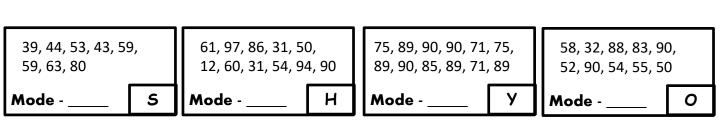
The first one is already done.



### <u>Calculate the MODE of each set of numbers below.</u>









44, 65, 43, 41, 44, 66, 57, 60, 42, 57, 57 **Mode** - \_\_\_\_\_\_**D** 

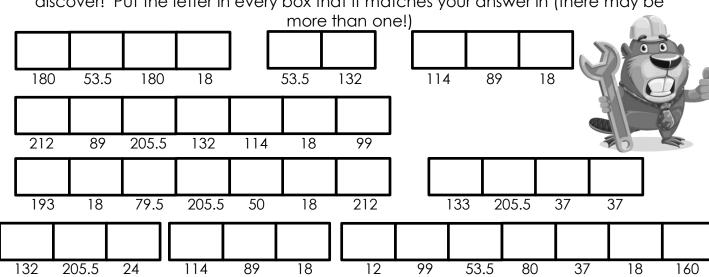
12, 18, 20, 14, 13, 14, 17, 18, 12, 14, 20

Mode - \_\_\_\_\_

78, 89, 45, 67, 80, 34, 88, 60, 34, 40 **Mode** - \_\_\_\_\_

### **Calculate the Mean, Median, and Mode – CLUE 4**

Calculate the mean, median and mode as instructed for the sets of numbers to reveal a clue. Use your answers to match and place the letters in the boxes to see what you discover! Put the letter in every box that it matches your answer in (there may be



### Calculate the MEAN of each set of numbers below.

57, 23, 30, 56, 43,		98, 84, 73, 99, 100, 90,		280, 230, 211, 150,		124, 146, 95, 103, 115,		
32, 19, 21, 20, 49, 57		85, 84, 81, 78, 107		120, 199, 254, 200		140, 143, 136, 186		
Mean	L	Mean	Н	Mean	I	Mean	F	

### Calculate the MEDIAN of each set of numbers below.

34, 14, 22, 26, 19, 16,		97, 100, 94, 87, 105,		56, 79, 34, 23, 104,		253, 240, 201, 204,		
17, 12, 15, 10, 33, 27		117, 98, 80, 106, 101		103, 110, 85, 80, 40		210, 234, 220, 212, 190		
Median	Ε	Median	R	Median	V	Median	5	

### Calculate the MODE of each set of numbers below.

43, 84, 20, 24, 32,		104, 114, 150, 95,				70, 50, 80, 30, 80, 50,		
86, 40, 24, 33, 31, 22		100, 140, 105, 114				40, 80, 70, 20, 30, 10		
Mode	X	Mode	Т	Mode	W	Mode	В	

### Calculate the MEAN, MEDIAN & MODE of each set of numbers below

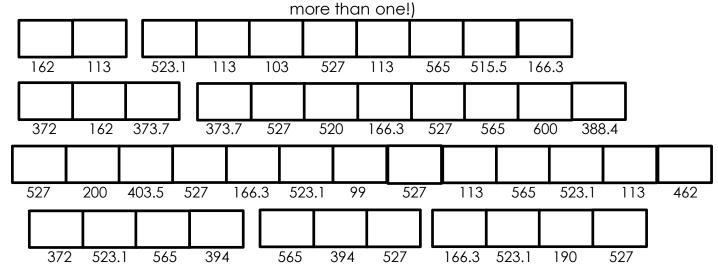
59, 93, 12, 15, 60, 73, 70, 50, 44, 30, 17, 18, 61, 54, 90, 14, 12, 71, 65, 46, 80, 62, 51, 53	160, 233, 106, 116, 240, 300, 301, 298, 160, 145, 115, 310, 267, 200, 205, 100, 110, 108
Mean C	Mean - D Median - N
Mode - P	Mode - M

Name:						

The Case of Mean Mountain

### Calculate the Mean, Median, and Mode - CLUE 5

Calculate the **mean**, **median** and **mode** as instructed for the sets of numbers to reveal a clue. Use your answers to match and place the letters in the boxes to see what you discover! Put the letter in every box that it matches your answer in (there may be



### Calculate the MEAN, MEDIAN & MODE of each set of numbers below

402, 340, 440, 450, 372, 386, 410, 412, 300, 372	189, 350, 86, 135, 190, 200, 89, 114, 190, 120
Mean - H	Mean - R Median - A
Mode - W	Mode - D
560, 210, 462, 345, 288, 500, 490, 150, 270, 462	624, 600, 611, 560, 167, 600, 549, 565, 467
Mean - P	Mean - E Median - T
Mode - G	Mode - L
93, 84, 99, 80, 110, 103, 189, 150, 115, 99, 121	556, 497, 468, 510, 511, 520, 599, 450, 520, 600
Mean - N Median - V	Mean O
Mode - M	Mode - C



200, 210, 200, 260, 250, 240, 260, 200, 190, 160, 120, 110

Mean, Median, and Mode all =



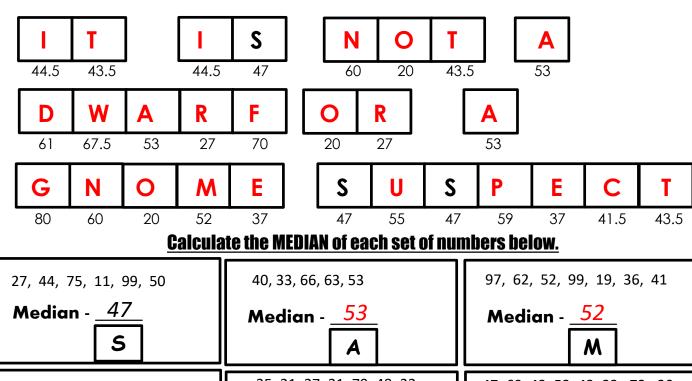
# SOLVE THE MYSTERY: THE CASE OF MEAN MOUNTAIN

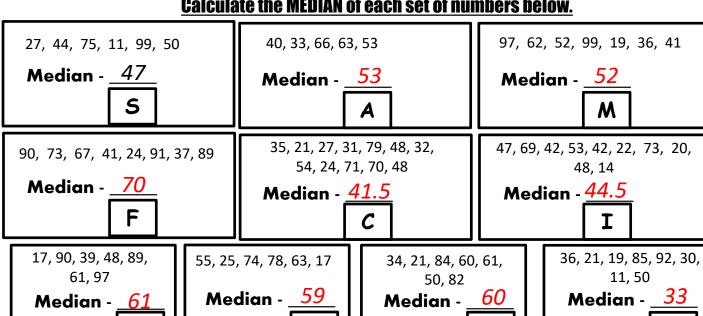
	Detective
(yo	our name)
	at the character responsible tain ride disappearances is:
	help all of the victims return home is:
	Teacher to check and
Clues Checklist:  Clue 1   Clue 2   Clue 3   Clue 4   Clue 4	Well done, you figured out who is responsible for the Mean Mountain ride disappearances! You arrest the guilty suspect for the crime and give an extended sentence for not owning up. Luckily, you also successfully discovered that there is a way to bring back every person who ever disappeared on the ride. Remarkably, it turns out they were all sent to a date in the future!  Within a few days, you manage to bring everyone back in time and return them to the date they disappeared. For some, that was many years ago. Relieved that you were able to close this unresolved case, everyone thanks you and proclaims you the best detective in Mathattan!
Clue 5	Oops! No that is not the one who is responsible for the Mean Mountain disappearances. Go over your work, check your clues, and try again.

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

### ANSWER SHEET – CLUE 1

Eliminate all rows with suspects who are a dwarf or gnome character. (Check first column with name)





N D A 55, 34, 22, 15, 16, 40, 42, 45, 38, 52, 55, 48, 16, 11, 8, 34, 75, 45, 32, 78, 46, 65, 39, 77, 60, 45, 56 20, 21, 15, 14 49, 40, 33, 29 70, 74, 80, 55 Median - 37 Median - 43.5 **Median** - <u>67.5</u> Median - 20W E 0 13, 18, 33, 45, 43, 83, 11, 60, 40, 32, 60, 58, 55, 29, 89, 77, 60, 83, 99, 82, 79, 74, 19, 30, 29, 2, 25 61, 63, 27, 35 65, 87, 80 Median - 27 **Median** - **55 Median** - **80** 

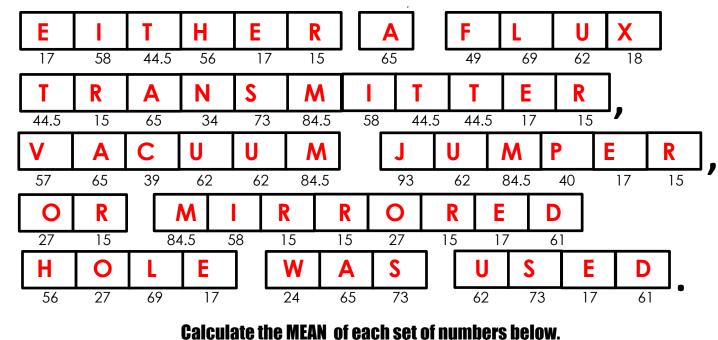
R

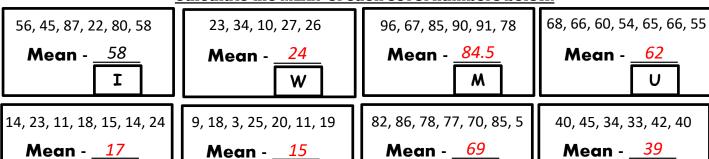
G

Name:

### ANSWER SHEET – CLUE 2

Eliminate all rows that DID NOT USE a Flux Transmitter, Vacuum Jumper, or Mirrored Hole.





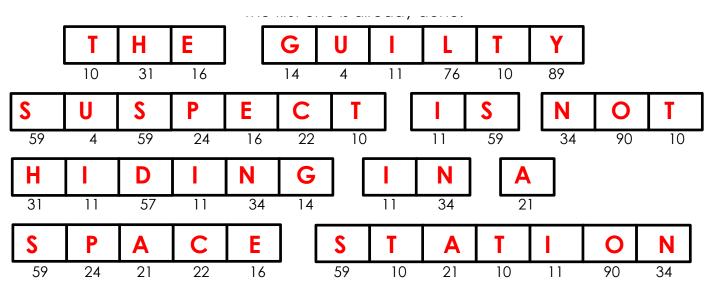
Ε C 78, 84, 65, 61, 72, 78 90, 87, 94, 99, 97, 91, 93 56, 34, 89, 90, 66, 60, 4 38, 31, 30, 33, 29, 41, 36

Mean - 57 Mean - 34 Mean - 93 **Mean** - 73 J S N 65, 11, 45, 79, 40, 27 43, 77, 84, 83, 75, 71, 22 50, 57, 62, 67, 49, 52, 55 43, 12, 16, 22, 18, 11, 4 Mean - 44.5 Mean - 56 65 Mean -Mean -X

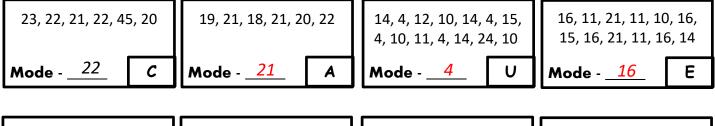
28, 25, 25, 21, 29, 32, 29 49, 50, 43, 38, 55, 52, 56 34, 39, 30, 40, 43, 37, 57 68, 30, 34, 78, 88, 80, 49 Mean - <u>27</u> Mean - 49 Mean - <u>40</u> Mean - <u>61</u>

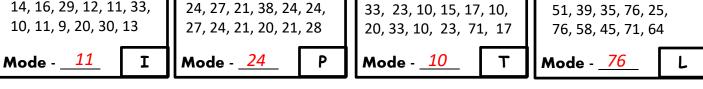
### **ANSWER SHEET – CLUE 3**

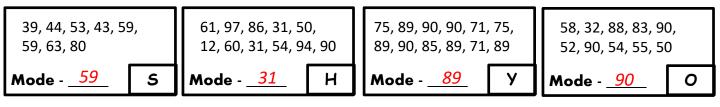
### ELIMINATE ALL ROWS WITH THE HIDEOUT IN A SPACE STATION.



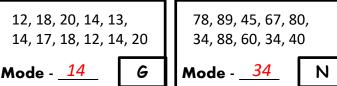
### <u>Calculate the MODE of each set of numbers below.</u>











### Calculate the MEDIAN of each set of numbers below.

253, 240, 201, 204, 34, 14, 22, 26, 19, 16, 97, 100, 94, 87, 105, 56, 79, 34, 23, 104, 17, 12, 15, 10, 33, 27 210, 234, 220, 212, 190 117, 98, 80, 106, 101 103, 110, 85, 80, 40 Median - 18 Median - <u>79.5</u> Median - <u>99</u> Median - 212 S

### Calculate the MODE of each set of numbers below.

43, 84, 20, 24, 32,

86, 40, 24, 33, 31, 22

104, 114, 150, 95,

100, 140, 105, 114

Mode - <u>24</u> X Mode - <u>114</u> Mode - <u>80</u> T Mode - <u>133</u>

66, 48, 94, 132, 133,

44, 133, 66, 133, 9, 40

70, 50, 80, 30, 80, 50,

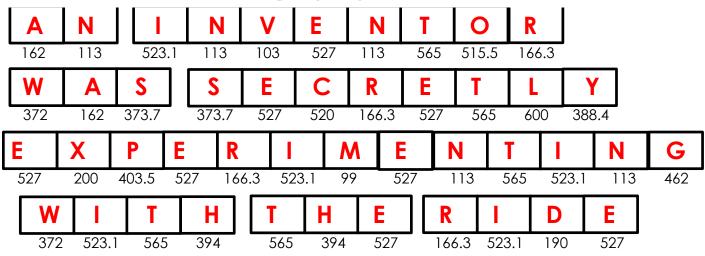
40, 80, 70, 20, 30, 10

### Calculate the MEAN, MEDIAN & MODE of each set of numbers below

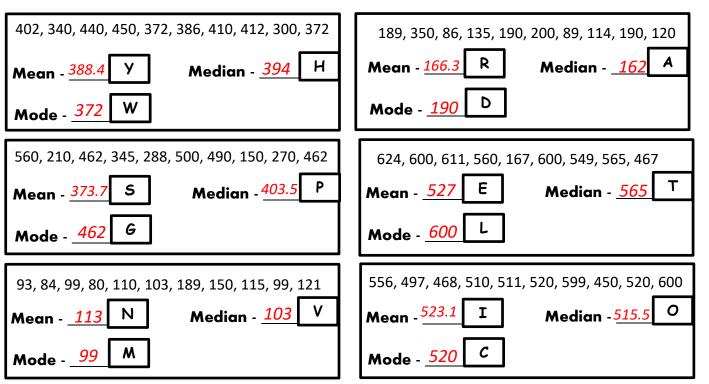
160, 233, 106, 116, 240, 300, 301, 298, 160, 59, 93, 12, 15, 60, 73, 70, 50, 44, 30, 17, 18, 145, 115, 310, 267, 200, 205, 100, 110, 108 61, 54, 90, 14, 12, 71, 65, 46, 80, 62, 51, 53 Median - <u>180</u> N Median - <u>53.5</u> O Mean - 193 Mean - 50 Mode - <u>16</u>0 M Mode - <u>1</u>2

### **ANSWER SHEET – CLIIE 5**

Keep only the suspect remaining who is an Inventor. Eliminate the rest. After this point, only one character should remain on the list, this is the guilty suspect!



### Calculate the MEAN, MEDIAN & MODE of each set of numbers below



200, 210, 200, 260, 250, 240, 260, 200, 190, 160, 120, 110

Mean, Median, and Mode all = 200 X

### ELIMINATION PROCESS

Suspect	Job Title	Hideout	Used	Special device needed to fix
Professor Peach	Scientist	Secret Lab	Flux Transmitter	Glimmer Ore
Dr. Pepper	Scientist	Space Station	Vacuum Jumper	Wishing Wagon
Emmet Effort	Inventor	Garage	Flux Transmitter	Stint Shifter
Gimpy the Goblin	Inventor	Garage	Mirrored Hole	Vortex Shifter
Hilda the Dwarf	Miner	Cave	Geostep	Rock Connector
Wally Winkles	Inventor	Space Station	Vacuum Jumper	Epoch Detangler
Larry the Wizard	Sorcerer	Tower	Void Portal	Magic Detangler
Drugar the Dwarf	Miner	Tower	Void Portal	Flashback Spell
Sheldon the Shaman	Sorcerer	Cave	Teleportation Spell	U-turn Spell
Martin McWhy	Scientist	Garage	Vacuum Jumper	Dezorean Shifter
Dr. Victor Frankenstein	Inventor	Secret Lab	Mirrored Hole	Lighting Shifter
Dexter Fluke	Inventor	Secret Lab	Vacuum Jumper	Clock Connector
Viessa the Elf	Sorcerer	Cave	Teleportation Spell	Magnet Ore
Dr. Emily Brown	Inventor	Garage	Flux Transmitter	Hoverboard Shifter
Tabitha the Witch	Sorcerer	Cave	Vacuum Jumper	Fusion Connector
Klenzap the Gnome	Miner	Tower	Geostep	Plasma Ore
Dr. Hank Wu	Scientist	Space Station	Mirrored Hole	Motion Shifter
Bumblebore	Sorcerer	Cave	Void Portal	Atomic Shifter
Mex Luther	Scientist	Space Station	Mirrored Hole	Liptinite Ore
Dr. George Grief	Scientist	Cave	Flux Transmiiter	Warp Connector
Anastasia Stone	Sorcerer	Garage	Teleportation Spell	Twisted Ore
Aeon the Robot	Scientist	Space Station	Vacuum Jumper	Nova Detangler

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 who has been crossed off from that clue. Whole rows must be eliminated at a time.

**MYSTERY ANSWER: DEXTER FLUKE** 

Tivestigator

hvestigato





Awarded To:

For solving the Math Mystery:



# Super Detective Work!



Awarded To:

For solving the Math Mystery:

THE CASE OF MEAN MOUNTAIN



# Check out MORE

### ENGAGING MYSTERY RESOURCES...

## Integers Case of The Invisible Illusionist



Your students will be practicing operations with integers to solve the Math Mystery!!

Click here to learn more about this resource

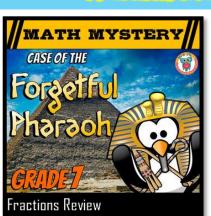
### Christmas Math Mystery: Case of the Zombie Elves



Review a mix of math skills and keep the spirit of learning alive around Christmas with this Math Mystery!

Click here to learn more about this resource

### Fractions Math Mystery: Case of the Forgetful Pharaoh



Your students will be working with fractions to help the Forgetful Pharaoh find his royal scepter!

Click here to learn more about this resource

# GRAPHICS & FONTS BY

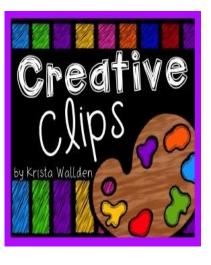
















THANK YOU!