MATH MYSTERY:
CASE OF THE ROGUE RUNNER

*Date:*_____

Hold on to your bags, phones and wallets! Mathhattan's latest villain is quiet, sneaky and extremely fast, robbing people by the thousands! This speedy rogue is wearing a mask, cloak and hat; their identity unknown. To stop this rogue runner, we are going to have to figure out who this criminal is because no one on the police force is able to run fast enough to catch this thief.

Many citizens of Mathhattan are outraged by this mysterious and fast rogue. Hear what a few victims had to say:

Tahlia stated, **"I was talking on my phone and in a flash it was snatched from my hands! Whoever stole it was so fast; I couldn't think quickly enough to see or stop whoever it was!"**

Carl complained, **"I didn't even notice this rogue, and the next thing I knew, my wallet, phone and watch disappeared!"**

Tom cried, **"I haven't been able to buy my lunch most days this week! The same is happening for most of my friends too! I don't even realize that my money is gone until I go to use it."**

Linda exclaimed, **"I saw the rogue runner! Whoever it is runs at least ten times faster than an Olympic sprinter, no wonder why no one can catch this criminal!"**

The rogue runner continues to move through our city like a flash stealing from anyone out and about. Many citizens are distraught at finding themselves robbed blind, and the police are struggling to catch and arrest this disguised villain. A great math detective is needed to discover who the rogue runner is so that the police can arrest the thief and hopefully recover the belongings of many.

MATH DETECTIVE NEEDED TO SOLVE THE ROGUE RUNNER'S IDENTITY

The police have made a list of all the possible suspects who can run extremely fast and could be the rogue runner. However, they urgently need a super math detective to help them solve this case and hopefully return the belongings to people robbed!

Name: _____

POSSIBLE SUSPECTS

Suspect Name	Male/ Female	Hair Color	Shoe Color	Tall/Short	Hiding In . . .
Lisa Sim	Female	Brown	Green	Short	The Crystal Caves
Homer Zilber	Male	Blonde	Pink	Tall	The Library Attic
Laila White	Female	Black	Green	Short	The Forest
Ola Patterson	Female	Brown	Orange	Short	The Library Attic
Sean Levy	Male	Blonde	Orange	Short	The Forest
Carlos Alarcon	Male	Brown	Green	Tall	The Forest
Jordan McMillan	Male	Brown	Green	Tall	The Crystal Caves
Jessie Walker	Female	Black	Pink	Short	The Crystal Caves
Dan Levitzki	Male	Blonde	Orange	Short	The Library Attic
Mai Kaneshiro	Female	Black	Pink	Tall	The Forest
Carly Smyth	Female	Brown	Pink	Short	The Forest
Bart Samson	Male	Blonde	Green	Tall	The Library Attic
Jackie Sanchez	Female	Brown	Green	Tall	The Crystal Caves
Emma Guthrie	Female	Brown	Orange	Short	The Forest
Brody Meadows	Male	Black	Orange	Short	The Forest
Hayley Santos	Female	Brown	Green	Tall	The Crystal Caves
Luna Sullivan	Female	Blonde	Pink	Short	The Forest

Solve the clues and then cross the suspects off the list until one remains. The last suspect remaining is the identity of the Rogue Runner. The information in that suspect's remaining row will also tell you where you will find them if they are the Rogue Runner.

Name: _____

RATIOS - CLUE 1

Crack the code by writing ratios to describe the pictures in each row. 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.

3:8	3:5	1:5	1:4	3:5	2:6	1:2

3:2	1:3	4:6

1:2	3:2	2:5	3:5	2:1	1:6

1:4	H		
2:3	3:2	1:4	

1:4	H	
2:3	4:6	

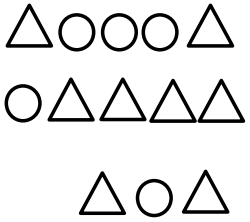
1:3	4:1	1:6	2:4	4:6

3:5	1:2

3:2

1:6	3:5	1:3	4:5

What is the ratio of triangles to circles in each row below:

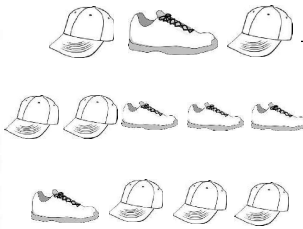


2:3 — **H**

_____ — **O**

_____ — **N**

What is the ratio of shoes to caps in each row below:

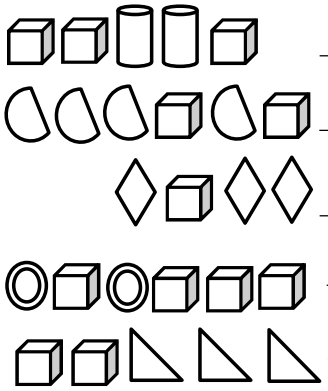


_____ — **S**

_____ — **A**

_____ — **R**

What is the ratio of cubes to total shapes in each row below:



_____ — **I**

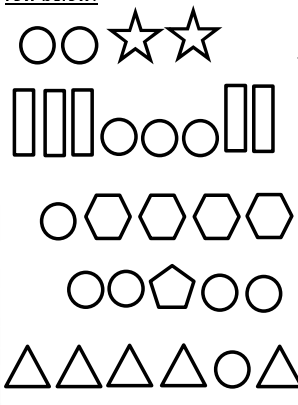
_____ — **M**

_____ — **T**

_____ — **E**

_____ — **Y**

What is the ratio of circles to total shapes in each row below:



_____ — **U**

_____ — **V**

_____ — **C**

_____ — **L**

_____ — **G**

Name: _____

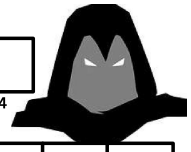
UNIT RATES – CLUE 2

Crack the code by finding the unit rate. 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!)

70	46	35

60	10	15	6	35

4



54	63	4	12

9	63	4

19	10	6	32	104

9	30	70	46

70	60	63	20	35	4

10	19

81	60	10	9	32

46	63	30	60

12 chairs in 2 rows = **6** chairs per row

U

20 push-ups in 2 days = ____ push-ups per day

O

12 cookies eaten in 3 hours = ____ cookies per hour

S

7 boxes with 490 bottles = ____ bottles per box

T

6 trays with 72 muffins = ____ muffins per tray

K

120 dollars for 4 tickets = ____ dollars per ticket

I

80 copies in 4 minutes = ____ copies per minute

C

315 dollars in 9 minutes = ____ dollars per minute

E

432 sales in 8 hours = ____ per hour

M

624 points in 6 minutes = ____ points per minute

D

252 jumps in 4 minutes = ____ jumps per minute

A

45 cakes made in 5 days = ____ cakes made per day

W

90 pages in 6 hours = ____ pages per hour

G

660 kilometres in 11 hours = ____ kilometres per hour

R

57 bags in 3 hours = ____ bags per hour

F

192 laps in 6 hours = ____ laps per hour

N

243 reports in 3 days = ____ reports per day

B

322 tables in 7 rooms = ____ tables per room

H

Name: _____ Mrs J's Resource Creations ©

REDUCING RATIOS – CLUE 3

Crack the code by reducing each ratio to its lowest form. Use your answers to match and place the letters in the boxes to reveal a clue. Put the letter in every box that it matches your answer in (there may be more than one!) The first one has been done for you!

1 : 17	15 : 11	2 : 1	21 : 11	5 : 8	6 : 7	6 : 1	16 : 9

C						
6 : 7	1 : 17	7 : 1	4 : 1	15 : 11	5 : 8	1 : 9

			C					
5 : 3	1 : 9	7 : 1	6 : 1	10 : 1	6 : 7	12 : 1	1 : 9	5 : 3

16 : 9	4 : 1	1 : 9	10 : 1	1 : 3	1 : 20	9 : 1	1 : 9	15 : 11	7 : 1

7 : 1	4 : 1	1 : 3	10 : 1	16 : 9

60 : 10 = 6 : 1 — C

40 : 20 = _____ — N

75 : 55 = _____ — A

10 : 30 = _____ — O

84 : 7 = _____ — B

12 : 108 = _____ — E

24 : 28 = _____ — I

44 : 11 = _____ — H

250 : 400 = _____ — V

270 : 30 = _____ — U

63 : 33 = _____ — Y

32 : 18 = _____ — T

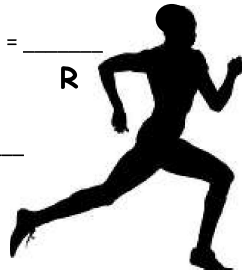
4 : 80 = _____ — G

55 : 33 = _____ — D

1,000 : 100 = _____ — R

560 : 80 = _____ — S

20 : 340 = _____ — M



Name: _____ Mrs J's Resource Creations ©

Customary Units

UNIT RATE PRICES – CLUE 4

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

3.90	37.05	6.55	6.90	18.60	20.70	8.10	6.55	5.25	48.66

2.03	2.03	6.55	6.55	23.40	6.90	8.10	23.40	23.40	27.28

23.40	20.70	3.90	37.05	6.55	102.14	18.60	6.90	6.55	2.03

I							
3.90	27.28	23.40	3.90	18.60			

If 6 books cost $20.46, how much would 8 books cost? **$27.28** — I

If 4 muffins cost $5.24, how much would 5 muffins cost? _____ — E

If 3 hats cost $24.30, how much would 1 hat cost? _____ — U

If 8 cakes cost $62.40, how much would 3 cakes cost? _____ — N

If 2 pizzas cost $16.22, how much would 6 pizzas cost? _____ — A

If 5 bags cost $255.35, how much would 2 bags cost? _____ — F

If apples cost $3.50 per pound, how much would 1 ½ pounds cost? _____ — W

If pears cost $1.95 per pound, how much would 2 pounds cost? _____ — T

If nuts cost $9.20 per pound, how much would 2 ¼ pounds cost? _____ — G

If petrol cost $1.20 per gallon, how much would 5 ¾ gallons cost? _____ — R

If milk cost $0.58 per gallon, how much would 3 ½ gallons cost? _____ — S

If lollies cost $11.40 per pound, how much would 3 ¼ pounds cost? _____ — H

4 donuts cost $6.20. How much would 12 donuts cost? _____ — O

Name: _____

EQUIVALENT RATIOS – CLUE 5

Crack the code by filling in the blank spaces to make the ratios equivalent. Use your answers (*the number that you wrote only*) to match and place the letters in the boxes to reveal a clue. Put the letter in every box that it matches your answer in (there may be more than one!) The first one has been done for you!

								U											
10	7	15	3	11	48	300	15	12	11	3	1	40	48	15	12	7	11	15	
25	15	50	50	11	25	25													
	U																		
2	300	3	80	40	48	1	5	7	1	12	15								

10 : 30 = 100 : **300** **U**

4 : 5 = 40 : _____ **L**

20 : 10 = 2 : _____ **A**

2 : 3 = 10 : _____ **E**

2 : 6 = 1 : _____ **R**

3 : 5 = 6 : _____ **T**

12 : 15 = 4 : _____ **C**

300 : 800 = 30 : _____ **I**

3 : 4 = 9 : _____ **S**

1 : 5 = 5 : _____ **F**

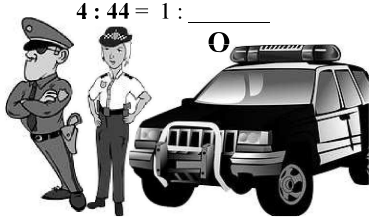
4 : 12 = 16 : _____ **G**

99 : 77 = 9 : _____ **H**

15 : 30 = 1 : _____ **D**

6 : 12= 20 : _____ **N**

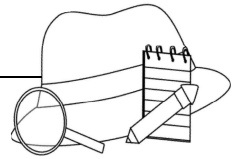
4 : 44 = 1 : _____ **O**



SOLVE THE MYSTERY: WHO IS THE ROGUE RUNNER?

Detective _____

(your name)



Has discovered that the Rogue Runner is:

_____

The police will need to search in the _____ to find him/her.

(Refer to the place the suspect is hiding in.)

Clues Checklist:

Clue 1 ☐

Clue 2 ☐

Clue 3 ☐

Clue 4 ☐

Clue 5 ☐

Teacher to check and tick

☐ **Well done, you solved the correct identity of the Rogue Runner! Because of your hard work and amazing detective skills, the police have arrested the rogue and put a stop to the theft all over town! Many belongings were also returned to their rightful owners, thank you!**

! ☐ **Oops! No that is not the Rogue Runner. Go over, check your clues and try again.**