









MATH DETECTIVES

CRIME SCENE INVESTIGATION

Last night in the peaceful town of Chill-Ville a horrible crime took place. Someone broke into the bank, shot the security guard and stole one million dollars.

One of the eight suspects below committed the crime but the police need your help to find out who.

THE SUSPECTS

			
SUSPECT 1	SUSPECT 2	SUSPECT 3	SUSPECT 4
			
SUSPECT 5	SUSPECT 6	SUSPECT 7	SUSPECT 8

THE POLICE HAVE FOUND 4 CLUES.

AFTER YOU HAVE SOLVED EACH CLUE COME BACK
HERE TO CROSS PEOPLE OFF THE SUSPECT LIST
UNTIL YOU HAVE FOUND THE CRIMINAL

CLUE 1: HIDDEN MESSAGE

IT APPEARS THE SUSPECT LOVES MATH RIDDLES AND HAS LEFT A MATHS CLUE AT THE SCENE OF THE CRIME. THE POLICE HAVE FOUND THE FOLLOWING SET OF MATH CLUES AND NEED YOUR HELP TO CRACK IT TO FIND THE MESSAGE

Solve the problems, then fill in the message spaces with the letters that match the correct answers to read the secret message. This will let you cross off two people from the suspect list.

A 5X6 _____	B 5X5 _____	C 4X6 _____	E 9X10 _____	F 7X8 _____
H 2X9 _____	I 6X6 _____	M 1X6 _____	N 4X4 _____	O 3X4 _____
P 2X7 _____	R 7X7 _____	S 4X5 _____	T 3X4 _____	U 4X8 _____
W 9X5 _____	X 4X4 _____	Y 9X8 _____	Z 3X3 _____	

PREVIEW!
THANKS FOR LOOKING!

$\frac{36}{20}$ $\frac{36}{20}$ $\frac{6}{14}$ $\frac{36}{24}$ $\frac{16}{21}$ $\frac{21}{6}$ $\frac{18}{36}$ $\frac{90}{35}$
 $\frac{25}{16}$ $\frac{32}{32}$ $\frac{21}{6}$ $\frac{36}{25}$ $\frac{30}{90}$ $\frac{6}{49}$ $\frac{16}{20}$ $\frac{12}{36}$ $\frac{21}{35}$ $\frac{36}{36}$ $\frac{56}{56}$
 $\frac{45}{16}$ $\frac{18}{32}$ $\frac{30}{6}$ $\frac{21}{25}$ $\frac{36}{90}$ $\frac{49}{49}$ $\frac{20}{20}$ $\frac{36}{36}$ $\frac{35}{35}$ $\frac{36}{36}$ $\frac{56}{56}$
 $\frac{21}{45}$ $\frac{49}{18}$ $\frac{32}{30}$ $\frac{90}{21}$ $\frac{21}{36}$ $\frac{18}{36}$ $\frac{30}{20}$ $\frac{16}{30}$ $\frac{16}{72}$ $\frac{36}{36}$ $\frac{30}{20}$
 $\frac{16}{21}$ $\frac{12}{49}$ $\frac{21}{32}$ $\frac{20}{90}$ $\frac{20}{21}$ $\frac{32}{18}$ $\frac{20}{30}$ $\frac{14}{16}$ $\frac{90}{36}$ $\frac{24}{30}$ $\frac{21}{6}$ $\frac{21}{30}$ $\frac{45}{6}$ $\frac{12}{12}$

CLUE 2: MAP OF TOWN CHILL-VILLE

Path of the Criminal

By using a tracking dog the police were able to find the path the criminal took after he stole the money.

Eyewitness reports have come in showing where all the suspects were seen after the crime. If they were seen along the path the police dog tracked then they could be the criminal.

SUSPECT	Where they were seen	Path of the track? Y or N
Suspect 1	Park	
Suspect 2	Waterslide	
Suspect 3	Carpark	
Suspect 4	School	
Suspect 5	Factory	
Suspect 6	Movies	
Suspect 7	Church	
Suspect 8	Grocery Store	

Draw the path the criminal took Start at point X near the bank.

Important! - Use a ruler to measure 1cm on the paper = 100m in real distance.

- Criminal walked 5x100m East
- Then 170m+130m North
- Then 280+70m West
- Then 300x2 m North
- Then 800-200m West

Then 550m South. The criminal then got in a car.

Take the suspects who were not somewhere on the path of the track off the suspect list.



SCALE: 1CM = 100M

CLUE 3: TIME FOR CRIME

The crime was committed at lunchtime. The criminal needed a 40min time slot to complete the crime. You are told the times the suspects left for lunch and the times they arrived back. Any suspect who spent less than 40mins at lunch can be taken off the suspect list

Suspect One left at 12:15pm and arrived back at 12:35pm Time at lunch: ____

Suspect Two left at 12:25pm and arrived back at 1:25pm Time at lunch: ____

Suspect Three left at 12:05pm and arrived back at 1:05pm Time at lunch: ____

Suspect Four left at 1:00pm and arrived back at 1:50pm Time at lunch: ____

Suspect Five left at 12:15pm and arrived back at 1:35pm Time at lunch: ____

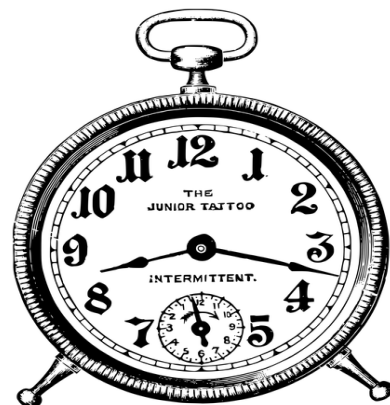
Suspect Six left at 1:15pm and arrived back at 2:00pm Time at lunch: ____

Suspect Seven left at 12:00pm and arrived back at 12:30pm Time at lunch: ____

Suspect Eight left at 1:45pm and arrived back at 2:35pm Time at lunch: ____

PREVIEW
THANKS FOR
LOOKING!

Which **suspects** spent less than 40mins at lunch and could not have committed the crime?



CLUE 4: CHEMICAL TRACES

Some of the notes that the criminal stole were marked with a chemical that the police use to track money.

The police retrieved money from all of the suspects homes. Small parts of the chemical were found on all of the notes, however the suspect which has the least amount of chemical on their notes can be safely removed from the suspect list

Amount of chemical on notes

Suspect 1: $0.002 + 0.004 =$ _____

Suspect 2: $0.093 + 0.007 =$ _____

Suspect 3: $0.12 + 0.33 =$ _____

Suspect 4: $0.98 - 0.32 =$ _____

Suspect 5: $3.3 - 2.3 =$ _____

Suspect 6: $0.01 + 0.008 =$ _____

Suspect 7: $0.9 - 0.2 =$ _____

Suspect 8: $0.003 + 0.002 =$ _____

SUSPECT WITH LEAST AMOUNT OF CHEMICAL ON THEIR NOTES: _____

TAKE THIS PERSON OFF YOUR SUSPECT LIST, THEY DIDN'T DO IT

IN-COMING MESSAGE

Just when you thought it was all over.....

You hear a beeping coming from the back of your car. What is that noise? There is an old morse code machine in the back of your car. The army used to use these machines to send secret messages to each other. Use the table below to help you decode the message.

A	• -	B	- • • •	C	- • - •	D	- • •	E	•
F	• • - •	G	- - •	H	• • • •	I	• •	J	• - - -
K	- • -	L	• - • •	M	- -	N	- •	O	- - -
P	• - - •	Q	- - • -	R	• - •	S	• • •	T	- - -
U	• • -	V	• • • -	W	• - -	X	- • • -	Y	- • - -
Z	- - • •								

• - - • • - • • • - • • • • • • - - - •

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Write your own morse code message below: