CRIME SCENE INVESTIGATION

Yesterday a terrible thing happened – Santa's sleigh was stolen!

Santa needs your help to find out who stole his sleigh – he needs it back before Christmas. You must succeed or else there will be no Christmas this year.

The most likely suspects were gathered up and are shown below, one of these suspects committed the crime. Use the evidence on the following pages to find out which one.

RUDOLPH	GINGERBREAD MAN	SANTA'S ELF	MRS. CLAUS
FROSTY	CHRISTMAS GHOST	PENGUIN PAUL	CHRISTMAS BEAR

THE POLICE HAVE FOUND FOUR CLUES WHICH CAN BE SEEN ON THE FOLLOWING PAGES

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

HIDDEN MESSAGE

At the scene of the crime Santa found a note with a hidden math 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 one person from the suspect list.

A	B	C	D	E	F	G
14	23	52	41	90	25	42
x5	x4	x2	x4	x_	x5	x6
___	___	___	___	___	___	___

H	I	J		L	M	N
92	56	72		65	51	23
x5	x4	x4	x8	x5	x8	x7
___	___	___		___		___

O	P		R	S	T	U
32	44	83		27	53	61
x6	x_	x3		x6	x_	x7
___	___	___		___	___	___

V	W	X	Y	Z		
			73	94		
	x7	x7	x3	x8		
___	___	___				

___ ___ ___ ___ ___   ___   ___ ___ ___ ___   ___ ___ ___
162 192 234 234 219   224   265 192 192 168   265 460 270

___ ___ ___ ___ ___ ___ - ___   ___ ___ ___ ___ ___ ___   ___ ___.
162 325 270 224 252 460   224   161 270 270 164 270 164   224 265

___ ___ ___ ___ ___ ___ ___   ___ ___ ___   ___ ___ ___ ___ ___ ___ ___
234 427 164 192 325 176 460   460 70 164   161 192 265 460 224 161 252

___ ___   ___ ___   ___ ___ ___ ___   ___ ___.
265 192   164 192   46 224 265 460   224 265

CROSS THIS PERSON OFF YOUR SUSPECT LIST.

MAGIC TO FLY

The sleigh requires magic to fly. Whoever stole the sleigh must have had enough magic power to get it flying. None of the suspects has any magic power within them – however they all have magic objects which could be used to make it fly. Each magic object has magic points and the sleigh requires at least 10 magic points to fly.

Cross off any suspect who has a total of less than 10 magic points off the suspect list.

Magic lollipop	Candy Cane	Magic cookie	Toy	Magic coat
$\frac{1}{3}$ magic point	$\frac{1}{4}$ magic points	$\frac{3}{4}$ magic points	$1\frac{1}{2}$ magic points	2 magic points

Hint: Convert to decimals first and then multiply number of object by amount of magic points it has. e.g. Three magic lollipops = $0.3\dot{3}$ x 3 = 1 magic points.

Rudolph had:
6 magic lollipops = _____ magic points

4 magic cookies = _____ magic points

3 magic coats = _____ magic points

Total magic points _____

Gingerbread ___:
candy canes = _____ magic points

2 toys = _____ magic points

___ magic coats = _____ magic points

Total magic points _____

Santa's Elf had:
9 magic lollipops = _____ magic points

4 candy canes = _____ magic points

2 magic coats = _____ magic points

Total magic points _____

___ Claus had:
4 magic cookie = _____ magic points

2 toys = _____ magic points

3 magic coats = _____ magic points

Total magic points _____

Frost ___ had:
8 candy canes = _____ magic points

8 magic cookies = _____ magic points

3 toys = _____ magic points

Total magic points _____

Christmas Ghost had:
3 magic lollipops = _____ magic points

5 candy canes = _____ magic points

6 magic cookies = _____ magic points

Total magic points _____

Penguin Paul had:
12 magic lollipops = _____ magic points

2 magic cookies = _____ magic points

1 toys = _____ magic points

1 magic coat = _____ magic points

Total magic points _____

Christmas Bear had:
9 magic lollipops = _____ magic points

4 magic cookies = _____ magic points

4 toys = _____ magic points

3 magic coat = _____ magic points

Total magic points _____

Cross off any suspect who has less than 10 magic points off the suspect list.

Fractions – Snowmobile Fuel

All the residents of North Pole use snowmobiles to get around. Santa keeps his sleigh in a cave far away from the other residents of North Pole. The person who stole the sleigh would have used up a lot of petrol/gas in their snowmobile so any suspect with a lot of gas left in their tank or gas canister can be taken off the suspect list.

CROSS THE SUSPECT OFF THE LIST WHO HAS THE MOST AMOUNT OF FUEL COMBINED IN THEIR TANK AND GAS CAN.

Rudolph	Gingerbread Man	Santa's Elf	Mrs. Claus
Size of tank = **2L**	Size of tank = **5L**	Size of tank =	Size of tank = **10L**
Fraction filled = $\frac{2}{4}$	Fraction filled = $\frac{4}{10}$	Fraction filled =	Fraction filled = $\frac{2}{5}$
2L / 1L — Liters in tank = + 4L	5L — Liters in tank = + 7L	6L — Liters in tank = + 3L	10L — Liters in tank = + 1L
Total Liters =	Total Liters =	Total Liters =	Total Liters =

Frosty	Christmas Ghost	Penguin Paul	Christmas Bear
Size of tank = **6L**	Size of tank = **3L**	Size of tank = **6L**	Size of tank = **9L**
Fraction filled = $\frac{4}{8}$	Fraction filled = $\frac{6}{9}$	Fraction filled = $\frac{3}{12}$	Fraction filled = $\frac{2}{6}$
6L — Liters in tank = + 7L	3L — Liters in tank = + 5L	6L — Liters in tank = + 2L	9L — Liters in tank = + 6L
Total Liters =	Total Liters =	Total Liters =	Total Liters =

Shade in the amount of fuel each suspect has left in their snowmobile.

Cross off the suspect with the most amount of fuel left in their tank.

BRIBE THE GUARD

The guard who looked after the sleigh vanished after the sleigh was stolen. It was found that the sleigh thief paid the guard a bribe to help them with the robbery. Money doesn't exist at the North pole so the sleigh thief must therefore have a large amount of valuable items to bribe the guard with. Each suspect has one item they specialize in. Calculate the total value of each suspects items. The **two** suspects whose products total value is the lowest wouldn't have had enough to bribe the guard so can be crossed off the suspect list.

CROSS OFF THE **TWO** SUSPECTS WITH THE **LOWEST** AMOUNT OF TOTAL VALUE

Hint: To multiply decimals multiply the numbers together normally, ignoring the decimal points. Then put the decimal point in the answer, it will have as many decimal numbers as the two original numbers combined.

E.g.   0.6   1
11 = (Multiply without decimal points).
0   has 2 decimal   1 as 1 decimal place)
the answer has three decimal places **= 0.044**

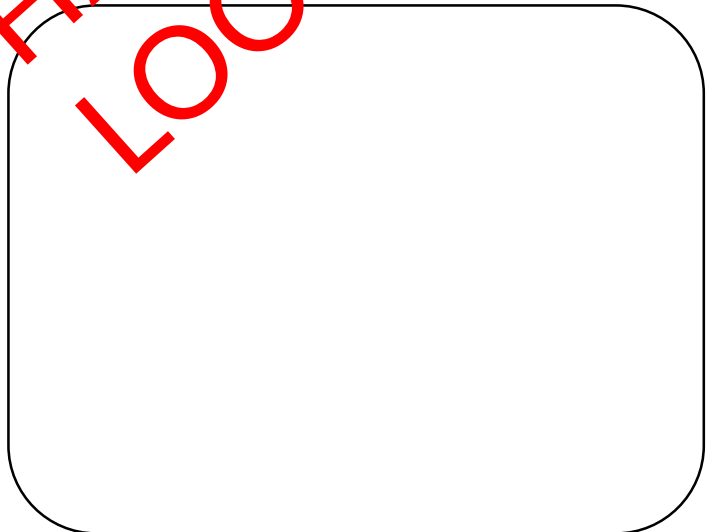| Rudolph	Gingerbread M	nta's Elf	Mrs. Claus
Sugar Canes	Gumdrop Buttons	Toys	Hot Chocolate
Value: $3.62per kg	Value: $0.70p	Value: 40per kg	Value: $0.83per kg
Amount: 5.32kg	Amount: 3.45kg	Amount: 8.26kg	Amount: 4.05kg
Total Value: 3.62 x5.32	**Total Value:** 0.70 3.45	**Total Value:** 1.40 x8.26	**Total Value:** 0.83 x4.05
Frost	**Christmas Ghost**	**Penguin Paul**	**Christmas Bear**
Snowflakes	White Sheets	Fish	Honey
Value: $6.25per kg	Value: $2.75per kg	Value: $5.05per kg	Value: $15.00per kg
Amount: 5.30kg	Amount: 3.90kg	Amount: 2.31kg	Amount: 0.09kg
Total Value: 6.25 x5.30	**Total Value:** 2.75 x3.90	**Total Value:** 5.05 x2.31	**Total Value:** 15.00 x0.09

FIND THE TOTAL VALUE OF PRODUCT EACH SUSPECT HAS.

CROSS THE TWO SUSPECTS WITH THE TOTAL LOWEST VALUE OFF THE SUSPECT LIST.

SLEIGH ADVENTURE

Imagine you had Santa's sleigh for a day. Where would you go?
What would you do? Write your adventure below.

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CHRISTMAS TREE GUIDANCE

Santa uses a special guidance system to help direct him around the world. He has a magic Christmas tree which has magic Christmas ornaments. When the ornaments are placed in the correct place on the tree, the tree lights up and sends a beam of light high into the sky which helps guide Santa around the world. With all the stress of having his sleigh stolen Santa has forgot where each ornament goes and needs yours help to put them in the right spot.

DIRECTIONS: Fill in each circle with a number from the number bank. Each number can only be used once. The three circles which connect to the middle star must have numbers which add up to the middle number (24).

NUMBER BANK

4	7	5	10	9
13	12	6	3	8

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