

# Mathematical Mystery: Fractions, decimals & percentages

A theft has occurred! Somebody has taken all the mini whiteboards! Miss Jones would like you to find out who took them, where they were taken from, and when this crime happened. Good luck!



## Who

One of the 4 teachers below has taken the mini whiteboards.

Analyse the number problems to discover the criminal.

Each teacher has said which of the numerical statements they believe are true or false. The innocent people have only made 1 or 2 errors.

The guilty person has made 3 errors.

- A) 40% of 500 is 200
- B) Half of 390 is 180
- C) 0.6 is the same as 6%
- D) 0.25 is the same as 2.5

- E)  $0.6 \times 300 = 50$
- F)  $\frac{3}{4} \times 90 = 60$
- G) Half of  $\frac{8}{10}$  is  $\frac{4}{5}$
- H) 0.085 is the same as  $8\frac{1}{2}\%$

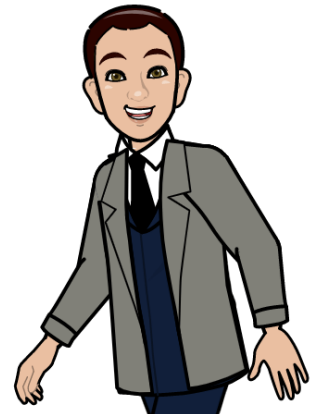
Miss Woodward  
said that:

- A is true
- C is true
- D is false
- H is true



Mr Smith said  
that:

- E is true
- G is false
- B is false
- D is false



Mr Sample said  
that:

- G is false
- C is true
- D is true
- F is true



Mrs Koval-Meth  
said that:

- D is true
- C is false
- E is true
- B is false



**Where**

The crime took place where these are in ascending order

$$0.109, \frac{1}{10}, 11\%, \frac{90}{1000}, 0.099$$

The Canteen if this order is correct	$\frac{90}{1000}, 0.099, \frac{1}{10}, 0.109, 11\%$
Reception if this order is correct	$0.109, 0.099, \frac{1}{10}, \frac{90}{1000}, 11\%$
Maths Office if this order is correct	$11\%, 0.109, \frac{1}{10}, 0.099, \frac{90}{1000}$
The Hall if this order is correct	$\frac{1}{10}, \frac{90}{1000}, 11\%, 0.099, 0.109$

**When**

Work out the answers to the calculations below to find the time and date

Add these fractions together  $\frac{5}{8} + 2\frac{1}{6} =$	A) $2\frac{6}{14}$ The time was 6:14 pm	B) $2\frac{19}{24}$ The time was 19:24
	C) $2\frac{6}{24}$ The time was 6:24 pm	D) $\frac{18}{14}$ The time was 8:14 pm
Subtract these fractions  $2\frac{2}{5} - \frac{7}{10} =$	A) $1\frac{1}{10}$ The date was 1/1/20	B) $1\frac{3}{10}$ The date was 1/3/20
	C) $1\frac{7}{10}$ The date was 1/7/20	D) $3\frac{7}{10}$ The date was 3/7/20

[Space for working out]

**Why.** Decode the message to find out why the mini whiteboards were taken

<b>a</b>	<b>b</b>	<b>c</b>	<b>d</b>	<b>e</b>
$20 \div 0.5$	$1.8 \times \frac{1}{2}$	$4.5 + 6.5$	$36 \times \frac{3}{4}$	$3 \div \frac{1}{4}$
<b>f</b>	<b>g</b>	<b>h</b>	<b>i</b>	<b>j</b>
$\frac{2}{5} \times 15$	$\frac{3}{10} \times 5$	$3\frac{7}{8} + 1\frac{1}{8}$	$0.95 \times 2$	Half of 66
<b>k</b>	<b>l</b>	<b>m</b>	<b>n</b>	<b>o</b>
$\frac{7}{12} - \frac{1}{6}$	$6 \div \frac{1}{5}$	$\frac{1}{4} \times 2 \times 2$	$0.7 \times 0.7$	$\frac{5}{8} \times 4$
<b>p</b>	<b>q</b>	<b>r</b>	<b>s</b>	<b>t</b>
5% of 40	26% as a decimal	15% of 50	$\frac{1}{4} \times \frac{4}{5}$	10% of 36
<b>u</b>	<b>v</b>	<b>w</b>	<b>x</b>	<b>y</b>
$3 \div \frac{3}{4}$	$1.5 \div 2$	$4 - 3\frac{3}{4}$	$\frac{3}{5}$ of 30	$1\frac{1}{2} \times 6$

1.9	$\frac{1}{4}$	40	0.49	3.6	12	27	12	0.49	2.5
4	1.5	5	$\frac{1}{5}$	2	40	11	12	6	2.5
7.5	1	9	11	40	30	11	4	30	40
3.6	1.9	2.5	0.49	$\frac{1}{5}$					

Final Accusation	
Who	
Where	
When	
Why	