Year 6
Last week – Day 4
LO – TBAT use number properties to solve a murder mystery.

Task 1

Arithmetic

25	$\frac{11}{12} - \frac{1}{2} =$
26	$\begin{array}{r} 786 \\ \times \quad 94 \\ \hline \end{array}$
27	78.6 ÷ 4 =
28	0.025 = ?%
29	$\begin{array}{r} 4598 \\ \times \quad 62 \\ \hline \end{array}$
30	33% of 20 =
31	$29\overline{)6833}$ =
32	$\frac{3}{8} \times \frac{5}{7} =$

Task 2

Use number properties to complete the following murder mystery.

JustMaths

Who, where and when?

Who?
One of the following four people has committed a crime. The criminal made 1 error, the victim has made 2 errors and the other two suspects have made 0 errors.

The ICT teacher made the following statements:

- 12 is a multiple of 2
- 6 is a triangular number
- 2 is the only even prime number
- 4 is a square number

The history teacher made the following statements:

- 5 is a factor of 20
- 16 is the 4th square number
- 20 has 6 factors
- 40 is a multiple of 8

The maths teacher made the following statements:

- 12 has 6 factors
- 1 is a prime number
- 21 is the 6th triangular number
- 4 is a factor of 18

The English teacher made the following statements

- 3 is both a prime and a triangular number
- 25 is a multiple of 5
- 9 has 3 factors
- 5 is a multiple of 20

Where?
The murder was committed at one of the locations below, but which one? It happened where TWO of the calculations are correct.

The maths classroom	Multiples of 8 are 8, 16, 24 All the factors of 6 are 1,2 and 3 6 is both a factor and a multiple of 32
The dining hall	All the factors of 6 are 2, 3, and 6 Multiples of 8 are 16, 24 and 32 Lowest common multiple of 6 and 10 is 60
The gym	6, 12, 18 and 24 are factors of 6 Multiples of 8 are 8, 16, 24 and 32 Highest common factor of 6 and 10 is 30
The playing fields	Multiples of 8 are 1, 2, 4, and 8 1, 2, 3 and 6 are all the factors of 6 Lowest common multiple of 6 and 10 is 30

When?
Find the day where **BOTH statements** are correct:

Monday	• 72 can be written as 2 x 2 x 2 x 3 x 3 • 104 can be written as 2 + 2 + 2 + 13
Tuesday	• 80 can be written as 2^4 x 5 • 72 can be written as 3^3 x 2^2
Wednesday	• 104 can be written as 2 x 2 x 2 x 13 • 40 can be written as 2^4 x 5
Thursday	• 72 can be written as 2 x 2 x 3 x 3 • 80 can be written as 2 x 2 x 2 x 2 x 5
Friday	• 104 can be written as 2^3 x 13 • 40 can be written as 2 x 2 x 2 x 5

The Accusation	
Who	
Where	
When	