## JustMaths <br> 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 $4^{\text {th }}$ square number
- 20 has 6 factors
- 40 is a multiple of 8


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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
- 12 has 6 factors
- 1 is a prime number
- 21 is the $6^{\text {th }}$ triangular number
- 4 is a factor of 18



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

## When?

Find the day where BOTH statements are correct:

| Monday | - 72 can be written as $2 \times 2 \times 2 \times 3 \times 3$ <br> - 104 can be written as $2+2+2+13$ |
| :---: | :---: |
| Tuesday | - 80 can be written as $2^{4} \times 5$ <br> - 72 can be written as $3^{3} \times 2^{2}$ |
| Wednesday | - 104 can be written as $2 \times 2 \times 2 \times 13$ <br> - 40 can be written as $2^{4} \times 5$ |
| Thursday | - 72 can be written as $2 \times 2 \times 3 \times 3$ <br> - 80 can be written as $2 \times 2 \times 2 \times 2 \times 5$ |
| Friday | - 104 can be written as $2^{3} \times 13$ <br> - 40 can be written as $2 \times 2 \times 2 \times 5$ |
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| Who |  |
| Where |  |
| When |  |

