

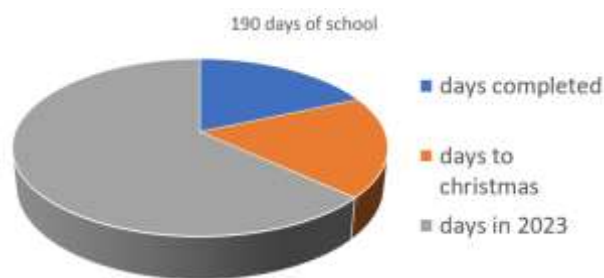


Hitchin Boys' School | Maths Department Newsletter – Oct 2022

ISSUE 2

Half a term done

Welcome back to issue 2 of the HBS maths newsletter. We are still open to any suggestions you have, so please let your teacher know. We have now been back at school for 35 days. That's 7 38th of the 190 days you attend each year and we have only 35 more school days before the Christmas break. See this represented in a pie chart then read on for more interesting maths nuggets.



Bram Stoker – Did he really do a maths degree?



Bram Stoker is a 19th Century novelist who is most famous for writing Dracula but he wasn't just a novelist. Before writing Dracula Stoker attended Trinity College, Dublin in 1864 to study mathematics and graduated in 1870 with Honours.

Be safe with Fireworks – Know your maths!



The trajectory of a firework can be modelled by an equation which describes the path it takes when it is launched into the air. The equation is a quadratic and is vital for fireworks as, if not launched at the correct angle, the firework could explode at the wrong moment or could land in the wrong location. This magic number depends on the firework in question. You can read more about this [here](#).

"If I were again beginning my studies, I would follow the advice of Plato and start with mathematics.."

Galileo Galilei

As you watch fireworks next month think of Galileo who pioneered the use of the telescope for observing the night sky. Read more about him [here](#).



Challenges

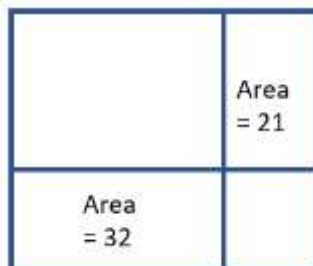
Thank you to all of you that entered the maths challenge last month. Solutions were **5** for the quick puzzle and **8** for the super challenge. Housepoints will be assigned to the winners
A request for more puzzles was put forward so this month we will have 3. Enter your answers [here](#)
Please encourage your family, friends or sixth formers to join in too.

Themed puzzle

One year, there were exactly four Tuesdays and exactly four Fridays in October.

On what day of the week did Halloween, October 31st, fall that year?

Intermediate puzzle



All lengths are integers.
Diagram not to scale.
The outside is a square.
What is its perimeter?

Super Challenge

What is the minimum side length of Pythagorean triangles with area 3360?



► Achievements

Rio Alfred, Nihal Chagger-Chahal, Tamid Ahmed, Luke Smart and Matthew George completed last month's challenges and got the correct solutions
Elias McGuffie scored the highest on knowing the members of the maths department although no one got 100% on this quiz!



► Coming up:

Term 1 assessments will be happening this half term along with year 11 mocks.
Next months newsletter will run through December so watch out for an advent of maths!

Vampire Numbers

1. Take any number with an even number of digits.
2. Split that number into two down the middle to make 2 numbers of equal length.
3. If the product of these numbers equals the original number your number is vampiric and the smaller numbers are known as fangs.

Example

$$12 \times 60 = 1260$$

fangs

Vampire number

These vampire numbers are used in the real world when teaching people different computer programming languages. Writing a programming code that finds the seven four digit vampire numbers is a good test of the skills the student has been learning.

Word of the month – Oblate Spheroid

An Oblate Spheroid is a flattened sphere. In fact, this is the shape of the Earth!.



What do Maths graduates do?
[Take a look](#)



Want more interesting maths ideas to explore?
Check out our [super curriculum](#)