

11N2 NEWS

Mathematics | Term 1

Highlights of the term

Following the progress test a couple of weeks ago, the students tackled a "remix paper" designed to focus on any areas they were not fully confident with. All of the students improved on their weaknesses with many showing mastery on all the topics.

Stars of the term

Each term, I pick out two students who have stood out as putting in a lot of effort. All of the students are progressing really well due to their hard-working attitude so picking out the stars of the term is a difficult job!

This term, however, I have gone for Destiny and Kiran.

Kiran has a fantastic attitude to her work and because of this she was able to really shine when working on probability.

Destiny has developed herself into a really confident mathematician through sheer determination. This was highlighted recently when working on simultaneous equations, where she was able to gain an excellent understanding.

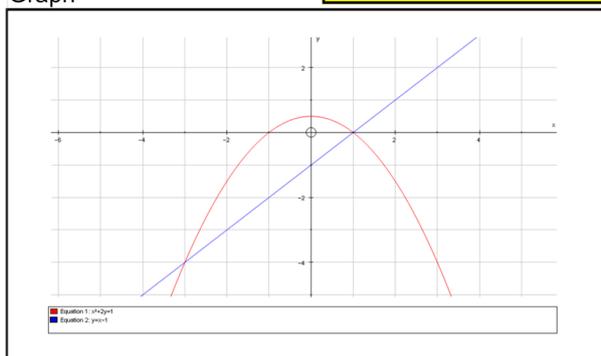
Well done to you both!

$$\begin{aligned}x^2 + 2y &= 1 \\ y &= x - 1\end{aligned}$$

Solutions

$$\begin{aligned}x &= 1 & x &= -3 \\ y &= 0 & y &= -4\end{aligned}$$

Graph

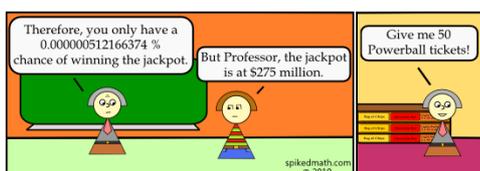


Topics we have covered

This term we started by looking at ratio and proportion. This involved us looking at situations involving direct proportion as well as inverse proportion.

We then looked at solving simultaneous equations by elimination and by substitution. We took this to a higher level by exploring the graphs of circles and lines using some software called 'Autograph'. A sample of Rubayya's work on this can be seen above. Exploring the algebraic techniques involved with this allowed us to brush up on our quadratic equations skills which was really useful.

Most recently, we have been exploring probability. We started this by talking about the national lottery and whether or not it was a good idea to play. This led us to an interesting discussion as to why the numbers 1, 2, 3, 4, 5, 6 have as good a chance as any to be drawn, but still shouldn't be played. We then explored the famous "Monty Hall" problem (see overleaf) and were able to prove Marilyn vos Savant's theory correct. Finally we explored independent and conditional probability by drawing probability tree diagrams.



Embrace
challenge

LEARN
from criticism

KEEP GOING
WHEN THINGS GET
TOUGH

Monty Hall Problem



Suppose you're on a game show, and you're given the choice of three doors: Behind one door is a car; behind the others, goats. You pick a door, say No. 1, and the host, who knows what's behind the doors, opens another door, say No. 3, which has a goat. He then says to you, "Do you want to pick door No. 2?" Is it to your advantage to switch your choice?

Key dates and admin

There will be mock exams taking place on the 10th and 11th of November. This will cover the entire course and will give us a good idea of where their strengths and weaknesses lie. We will use these to set targets and action points for further improvement. It is important that your son/daughter prepares well for these exams. Purchasing a revision guide from the school shop would be useful and the websites below should also help:

www.mathedup.co.uk

www.hegartymaths.co.uk

www.mymaths.co.uk

www.justmaths.co.uk/online

Exam dates:

Paper 1: Thursday 4th June 2015

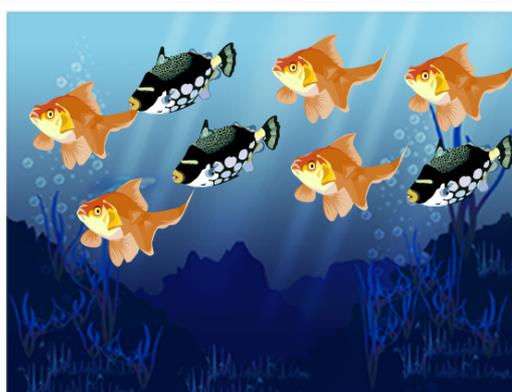
Paper 2: Monday 8th June 2015

What we will be working on next

After the half term break, we will be finishing off some work on vectors. We will then be preparing ourselves for the mock exam due to take place on the **10th and 11th of November**. We will analyse this and use it to decide which topics we need to revisit. After this, we will get the compasses out and use them to create some constructions and investigate Loci.

Something for you to work on together

Have a go at working through the following problems together with your son/daughter. They should be able to explain them to you.



I catch 2 fish from the tank.
Calculate the probability that

- Both fish were goldfish
- I caught one of each fish
- I caught at least one black fish



If 5 cats can catch 5 mice in 5 days, how many days does it take 3 cats to catch 3 mice?

If you have any questions about GCSE maths or how your son/daughter is getting on, please don't hesitate to contact me on mohammed.ladak@thomasdeaconacademy.com