



Brechin High School

#ProudtobeBrechin

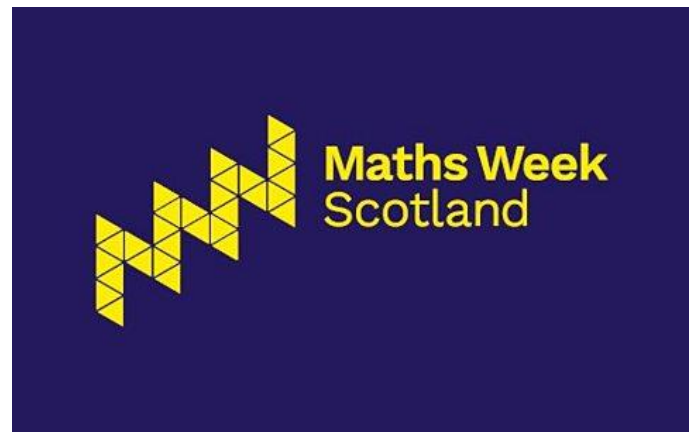
Weekly Update 27.09.24

#MathsWeekScotland Maths team Bumper Weekly Update Monday 23 September - Sunday 29 September

Maths is all around us. We use it in our daily lives when cooking tea, playing sport or deciding whether to go for that impulse purchase. It shapes our society in our voting systems and the way we use data. It underpins the art we view and the music we listen to.

Maths Week Scotland is a dedicated week of events and activity, with special events throughout the year. The theme for Maths Week Scotland 2024 is *Maths Tales*. You can find out more about Maths Week Scotland and take part in the activities by

[clicking here](#)



Brechin Maths supported study planner

The list below shows our plan for supported study this term. Additional support can also be given at lunchtime by arrangement with any teacher.

Course	Day	Time
Nat 5 Maths (virtual)*	Tuesday	Starting at 6pm
Nat 5 Maths (f2f)	Tuesday	Afterschool drop in – F4 3.50 – 5pm with Miss Dixon
Higher Maths (Virtual)*	Tuesday	Starting at 7pm
Higher Maths	By arrangement with your teacher.	
Advanced Higher Maths		
Nat 5 Applications of Maths		
Higher Applications of Maths		

*The Virtual lessons will start after the October break

Timetable Rockstars



As part of MathsWeekScotland our pupils have taken part in a Scotland wide competition. I am very pleased to share that Brechin High School was the top scoring Secondary School! One of our classes was the top secondary class in Scotland! One of our pupils was the top scoring pupil!!!
#WhatAnAchievement #ProudtobeBrechin

Certificates are being printed for lots of pupils but a massive shout out to the following pupils who were the top scoring pupils in their classes.

S1: Glen Tough, Sofia Donska, Ben Brown and Lochlan Ross

S2: Charlie Reid, Oskar Przybylski, Archie Armstrong and Samantha Beedie

S3: Joe Aitken, Alysha White and Wilson Laurie.

Well done to all the pupils for their enthusiasm this week, thank you to all the Maths staff for facilitating this and organising the entries. A massive extra well done to Joe Aitken who was the top scoring pupil in Scotland. Well done Joe!



HIGHEST SCHOOL AVERAGE
OUT OF SECONDARY SCHOOLS

Scotland Rocks
24.09.2024 - 26.09.2024



MOST VALUABLE PLAYER
OUT OF SECONDARY SCHOOLS

Scotland Rocks
24.09.2024 - 26.09.2024



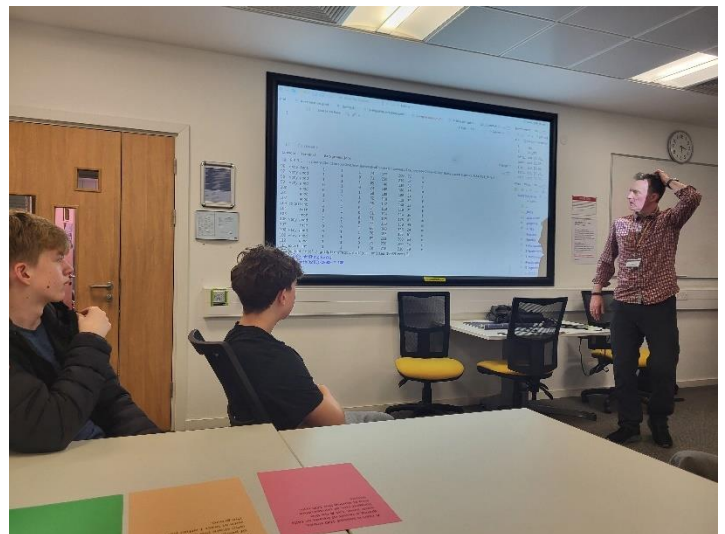
Trip to Dundee University



Wednesday seen 19 of our S5 and S6 pupils travel to the University of Dundee City Campus for an afternoon exploring the beauty and importance of mathematics. The programme included opportunities to hear what mathematicians love about maths and to find out more about why the maths we study in school is important. Pupils also had the chance to meet and chat with university maths students. The event also offered a taste of what it might be like to go to university and an opportunity to find out more about maths-related careers.

During the visit Dr Phillip Murray delivered a presentation "D'Arcy Thompson: making shapes with mathematics" and showed students some online tools that had been developed by the University. There were some interesting questions including the Mathematics used to find the answer to a question like; How big could an elephant be?

We also attended workshops on 'surprising Statistics' by Dr John McDermott and 'Mathematical brainteasers and problem solving' by Dr Jeremy Parker.



One of the problems discussed was the 'birthday problem'. We used R Studio (software we use in our Higher Applications of Maths course) to run an experiment to see how many people in a group of 60 would have the same birthday as at least one other person in the group. With 365 days to choose from (ignoring leap days) it would be sensible to estimate that 2 people would have the same birthday in a group of that size but the answer was 18. There were 9 pairs of people with the same birthday in a group of 60. #SurprisingStatisticsAlright

Maths Wi Nae Borders

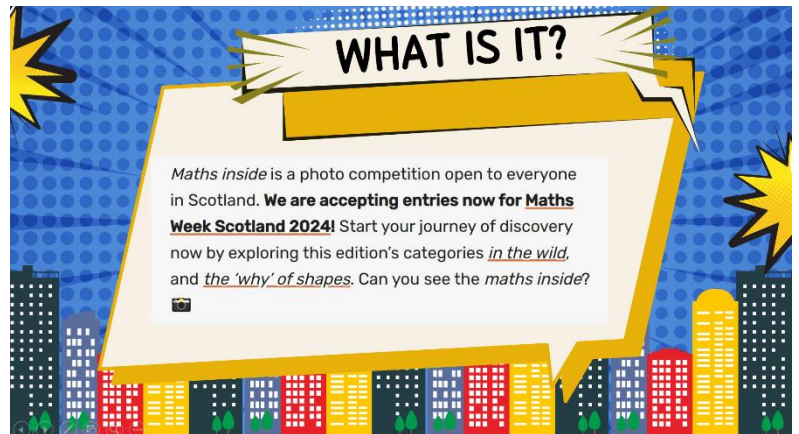


Some of our pupils have also taken part in the National competition ~ Maths Wi Nae Borders this week. This National competition grades responses based on the quality of the presentation of the working and solutions submitted. I am sure you can agree from the image on the left that our pupils have presented their solutions amazingly well and we look forward to hearing how we performed in the competition later in the year. More info can be found by [clicking here](#)

Maths inside

Some classes have spent time outside their classrooms looking for examples of 'Maths in the wild' and the interesting shapes.

Maths inside is a photo competition open to everyone in Scotland. They are accepting entries now for Maths Week Scotland 2024! The closing date for entries is Monday, so be quick! Start your journey of discovery now by exploring this edition's categories in the wild, and the 'why' of shapes. Can you see the maths inside? 📷



Send us a photo with the maths inside sticker on it to enter the competition into one of our categories. Your photo should be accompanied by a title and commentary explaining the maths inside. Remember to add the maths inside sticker. Participation can be individual or in small groups. This is open to all ages. More information on this competition can be found by [clicking here](#)



Time to study



It's that time of year again when pupils have received their tracking grades, the first tracking report provides a good opportunity to compare the work pupils can complete in class with their performance in exam level assessments. I am sharing this Maths support information to support all our parents and carers as they encourage our young people to make the most of their time in school and at home. To achieve your full potential in the SQA exams hard work is needed. It is not enough to rely on talent, or work done in school, regular work at home is also needed. We recommend doing a little bit of maths at home most days, that way you can ask your teacher easily if you get stuck with questions and it doesn't all become too overwhelming.

Class Notes



Whilst these will look different for every class our staff are trying to share the lesson materials including notes, worked examples and exam questions from every lesson.

Please see some examples of the materials available to pupils on our Google Classrooms.

Practice

(e)

long side ⊕
 $x^2 = 13^2 - 7.5^2$
 $x^2 = 225.25$
 $x = \sqrt{225.25}$
 $x = 15.0033102$
 $x = 15.0$

(f)

short side ⊖
 $x^2 = 71^2 - 58^2$
 $x^2 = 1677$
 $x = \sqrt{1677}$
 $x = 40.9511040$
 $x = 40.95$

(g)

long side ⊕
 $x^2 = 6.9^2 + 4.8^2$
 $x^2 = 70.65$
 $x = \sqrt{70.65}$
 $x = 8.405355430$
 $x = 8.41$

(h)

long side ⊕
 $x^2 = 14.2^2 + 7.6^2$
 $x^2 = 259.4$
 $x = \sqrt{259.4}$
 $x = 16.10589454$
 $x = 16.1$

Friendliness | Achievement | Inclusion | Trust and Respect | Honesty

Exam questions

Source: 2019 P2 Q3 N5 Maths

The diagram shows triangle PQR.

• PR = 45 centimetres
 • PQ = 70 centimetres
 • Angle QPR = 129°

Calculate the area of triangle PQR.

$$A = \frac{1}{2} ab \sin C$$

$$= \frac{1}{2} \times 70 \times 45 \times \sin(129)$$

$$= 1224.004889$$

$$= \underline{1224 \text{ cm}^2}$$

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Exam questions - circle chord

The diagram below shows the circular cross-section of a milk tank.

The radius of the circle, centre O, is 1.2 metres.
 The width of the surface of the milk in the tank, represented by ML in the diagram, is 1.8 metres.

Calculate the depth of the milk in the tank.

4

Friendliness | Achievement | Inclusion | Trust and Respect | Honesty

Practice

7.

$A = \frac{1}{2} ab \sin C$
 $= \frac{1}{2} \times 31 \times 37 \times \sin(28)$
 $= 269.2419413$
 $= \underline{269.2 \text{ m}^2}$

8.

$A = \frac{1}{2} ab \sin C$
 $= \frac{1}{2} \times 50 \times 65 \times \sin(43)$
 $= 1108.247335$
 $= \underline{1108.2 \text{ cm}^2}$

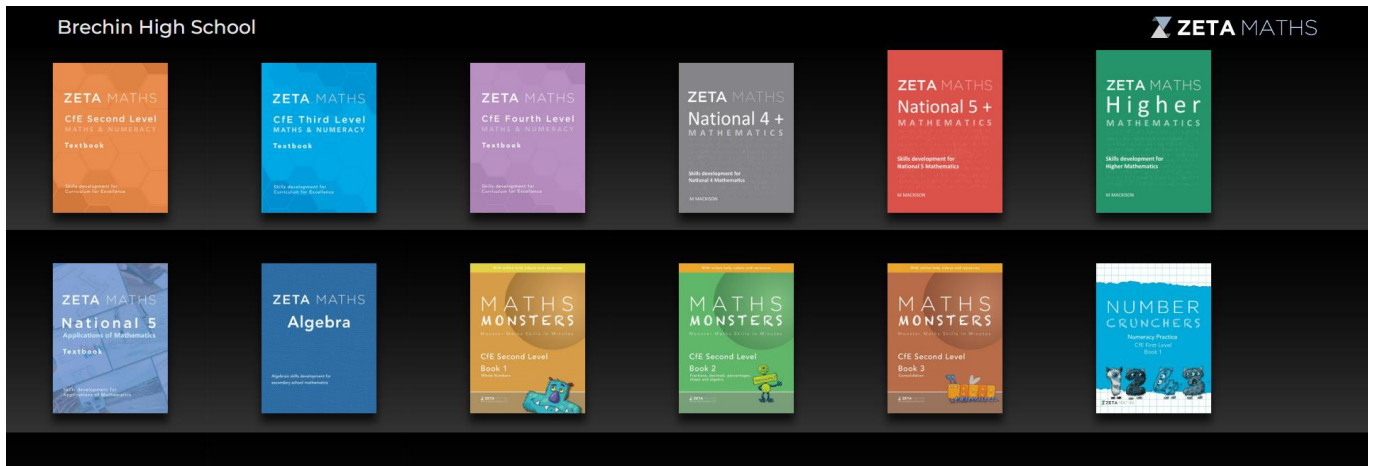
9.

$A = \frac{1}{2} ab \sin C$
 $= \frac{1}{2} \times 25 \times 16 \times \sin(63)$
 $= 178.2013048$
 $= \underline{178.2 \text{ km}^2}$

Friendliness | Achievement | Inclusion | Trust and Respect | Honesty

Zeta Maths

The textbooks from Zeta are the main resources used by almost all Maths classes. We have an online bookshelf so your child can access the resources whenever they wish, including at home. This extensive range of textbooks each contain examples, notes and lots of practice questions. Our bookshelf can be accessed [here](#)



Pegasys Support Packs

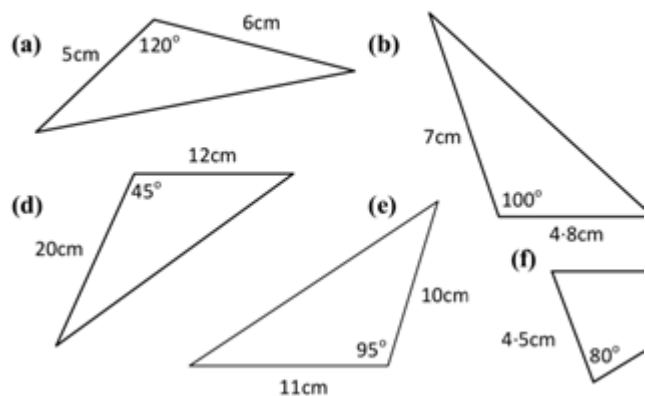
These support packs have a huge number of additional questions for students to do more practice – the questions range from standard C grade questions to the unusual looking A/B grade questions. Solutions are available too.

CFE National 5 - Pack 3

Unit : Applications (APP)

WORKSHEETS

3. Find the area of the following triangles :



Dynamic Maths Revision notes

National 5 Mathematics Revision Notes

Last updated June 2021



Notes and worked example for every part of your course is available here.

Available for Nat 4, Nat 5, Higher and Advanced Higher Maths and Nat 4 and Nat 5 Applications of Maths.

Use this booklet to practise working independently like you will have to in the exam.

- Get in the habit of turning to this booklet to refresh your memory.
- If you have forgotten how to do a method, **examples** are given.
- If you have forgotten what a word means, use the **index** (back pages) to look it up.

As you get closer to the final test, you should be aiming to use this booklet less and less.

e-Sgoil Study Support - National offer

Registration for Study Support is now live.

Weekly evening Study Support webinars are offered during term time, covering a wide range of subjects and levels.

Study Support is for Senior Phase learners who are working towards National Qualifications.

You can find the timetable for the full Webinar programme, as well as supporting materials, and information about how to register [by clicking here](#)

Webinars will start week beginning October 28th.

STUDY SUPPORT

2024-25



MATHS

Course	Day	Time
N4 Maths	Monday	5 pm
N5 Maths	Monday	5 pm
Higher Maths	Tuesday	5 pm
Advanced Higher Maths	Tuesday	6 pm
N5 Application of Maths	Monday	6 pm
Higher Application of Maths	Monday	7 pm

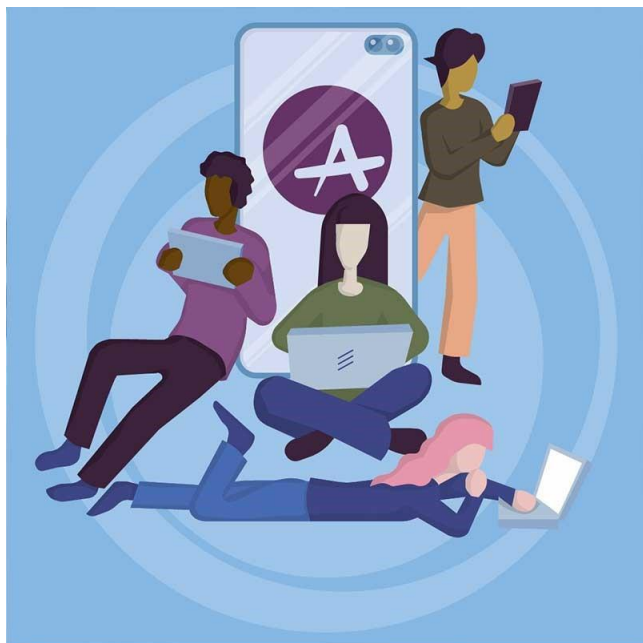
www.e-sgoil.com



STUDY
SUPPORT
2024-25



Our Achieve learning platform



Achieve for National 5 Maths and Applications and Higher Maths

<https://achieve.hashtag-learning.co.uk/>

- Updated Learning Concepts: Course concepts revised to improve clarity and provide worked examples and solutions.
 - Expanded Question Bank: 700 extended questions added to help students understand key concepts, each with detailed solutions.
- New ASSESS Questions: 1,000 online ASSESS questions give students feedback on their strengths and areas for development.

Scholar



SCHOLAR

Online learning for Scotland

Maths and Applications of Maths are just two of the courses available to all young people across Scotland from Scholar.

Lesson activities, notes, examples, questions, solutions and assessments are all available here.

Other recommended sites

<https://www.national5maths.co.uk/free-national-5-maths-2/>

<https://www.maths180.com/>

<https://www.youtube.com/@DLBmaths/playlists>

<https://corbettmaths.com/>

I hope you find these resources useful but if you have any questions or concerns about your child's progress or want to know more about how you can support them, please feel free to get in touch with Mr Todd by emailing brechinhigh@angusschools.org.uk