

PARENT/CAREER GUIDE TO MATHS REVISION



There are 3 GCSE maths exams, each 90 minutes long:

Paper 1 – Non-Calculator

Paper 2 – Calculator

Paper 3 – Calculator

Your child will then be given a number grade from 1-9 for their results. Grade 9 is the highest grade a student can achieve on higher tier, or a grade 5 on foundation tier. A grade 5 is a 'strong pass'. Your child will either be taking foundation or higher tier. Our exam board for maths is AQA.

The run up to exams and mock exams, as well as the exam period itself, can be incredibly stressful for children; we all want to support our children in their preparation for exams.

Here are some tips and resources which might help you to support your child in their preparation for the maths GCSE exams and their mock exam period:

- Set some time aside with your child and create a revision timetable. This will help your child to organise their revision and use their time to maximum effect. To maintain their concentration, build in breaks for food or just to be away from their revision. More information on preparing for a maths exam and approaches to problem solving follow later on, which can help you to start thinking about different approaches and techniques your child can use in their maths exams, as well as their revision. Please remember that maths homework also contributes to your child's revision.
- Where possible, your child needs a quiet space away from distractions to revise effectively. They should have a desk/ table/ bench to work on.
- Ensure your child drinks plenty of water.
- Ensure they get plenty of sleep! Always build in time at the end of the night for your child to unwind away from revision.
- They must always remember to eat breakfast – especially on exam day!
- Make sure bags are packed the night before to avoid a panic on the day. Checking that pencils are sharpened, calculators are working and pens have some ink left is key!

Resources available for revision:

- The school website has a wealth of revision resources for maths. Go to Learning > Our Curriculum > Maths. More information on this follows.
- Sparx maths is an excellent revision resource which your child should be familiar with using. It features a system called XP-Boost where they earn points for tasks and has a vast independent learning section.
- Corbett maths has a video for each topic with worked examples and explanations, exam questions with worked solutions, and textbook exercises with answers for your child to self mark their work.
- Onmaths is a website which has online mock exams and individual topic tests, which are marked for you.
- MathsMadeEasy is another excellent website, with written revision notes which your child could turn into flash cards, practice exam questions and online tests.
- Your child's maths book and past assessments are also excellent resources for revision, as they contain personalised feedback. Green box examples should be focused on the correct way to answer a question.

Be the best you can be

for Preparing for Maths Exams

Maths revision should be mostly active; your child should be spending most of their time working through the kinds of questions that come up in exams, instead of reading about how to answer these questions. If your child is struggling to answer a question, only then should they look up the method for solving it.

Practice papers are a good way to get used to exam-style questions and the format of the exams. Your child's maths teacher will be providing your child with lots of these in the run up to exams and in class. Practice exam questions are just as effective and can be found on the websites mentioned previously. Whilst your child is working through practice questions and practice papers, every time they need to look up a method or a formula, they should write this down. Eventually, all of the information that they have had to look up will become a personalised list of facts and formulae to revise before the exams. Your child can get blank flashcards from their tutors at school which they may wish to utilise to make revision cards. Setting aside time with your child to use these flashcards to test them is an excellent revision tool. We also sell ready made flashcard packs and revision guides in school.

The formulae that your child will need to remember is available as a downloadable poster on the maths section of the school website.

Problem Solving

Problem solving is a major part of the new GCSE format. There will be questions in each paper which could be unlike anything your child may have seen before. In this situation, we need to encourage them not to panic or assume that they don't know how to answer it! They may well know all of the maths content needed to solve the problem, the challenge is working out what they have to use. In maths lessons we use the following hints to help children through a problem solving question:

What do you see?



What shapes can you see in the diagram? What are the key pieces of information? What key command words can you pick out (e.g. calculate/prove)?

What do you know?



What formulae do you know that apply? What do you know about the angles/sides in these shapes? Can you form an equation to describe the situation?

What do they want?

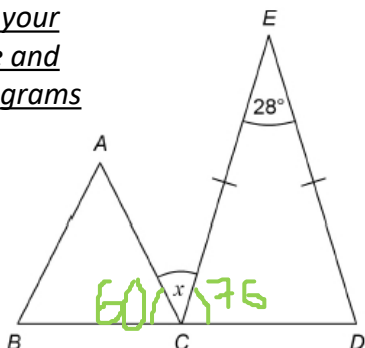


What is the question asking for? Have you got enough information? Have you written down the units or are they provided? Have you rounded to the required degree?

BCD is a straight line.

Triangle ABC is equilateral.

CE = DE



Not drawn accurately

Encourage your child to use and annotate diagrams

What do you see?

Triangle ABC is equilateral

Triangle CDE is isosceles

Angle CED is 28°

B, C and D are on a straight line

What do you know?

Angles in a triangle add up to 180°

Equilateral triangles have all equal angles, so $180 \div 3 = 60^\circ$

Isosceles triangles have two equal angles at the base. $180 - 28 = 152^\circ$. $152 \div 2 = 76^\circ$

Angles on a straight line add up to 180°

$180 - 76 - 60 = 44^\circ$

What do they want?

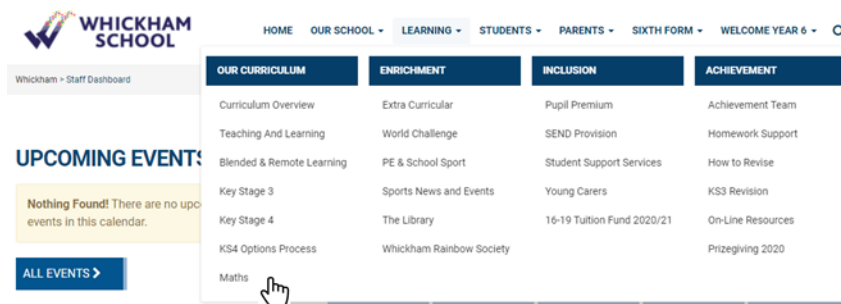
The angle x is 44°

Work out the size of angle x.

Be the best you can be

for Preparing for Maths Exams

The maths page on the school website can be found here:



Here you will find an overview of each year of our curriculum. Years 7-10 have knowledge organisers attached to each block of learning. These are useful for our Y11 pupils as they summarise the learning they have already worked on in previous years.

Under the Y11 section, you will see an overview of the scheme of learning for the year, followed by a number of useful resources.

Y11 Foundation Knowledge Organisers

- Y11 – Foundation Revision Plan
- Y11 – Foundation Formulae
- Y11 – Foundation Skills Hegarty Clips
- Y11 – Crossover Skills Hegarty Clips
- Y11 – Revision Guide Aiming for Grade 1
- Y11 – Revision Guide Aiming for Grade 3
- Y11 Revision Guide Aiming for Grade 5
- Y11 Algebra Foundation
- Y11 Geometry Foundation
- Y11 Number Foundation
- Y11 Ratio and Proportion Foundation
- Y11 Statistics and Probability Foundation

Y11 Higher Knowledge Organisers

- Y11 Higher Revision Plan
- Y11 Formulae you need to know
- Y11 Crossover Skills Hegarty Clips
- Y11 Higher Skills Hegarty Clips
- Y11 Revision Guide Aiming for Grade 5
- Y11 Revision Guide Aiming for Grade 7
- Y11 Revision Guide Aiming for Grade 9
- Y11 Algebra Higher and Foundation
- Y11 Geometry Higher and Foundation
- Y11 Number Higher and Foundation
- Y11 Ratio and Proportion Higher and Foundation
- Y11 Statistics and Probability Higher and Foundation

The 'revision plan' is a chunked schedule which your child should follow to ensure they have covered the whole course in time for the summer exams.

The formulae sheets are downloadable posters with all of the formulae your child will need to remember for their exams.

The 'Revision Guides...' are downloadable booklets of notes and exam question practice, targeted at different grades, for your child to utilise in their revision – their maths teacher will be able to provide them with the answer booklets.

The highlighted documents are revision mats for each strand of mathematics. They summarise the key content that your child will need to know with examples.

Foundation STATISTICS & PROBABILITY

Averages
mode/modal – most common value or values (modal class)
median – the middle number when they are in ascending order
mean – add the numbers up and divide by how many there are
range – the difference between the largest and smallest value

Important Terms
Frequency – the number of elements in a group
quantitative data – information about numbers, e.g. ages or heights (quantities)
qualitative data – information about everything else, e.g. eye colour or favourite food
random sampling – every piece of data has the same chance of being chosen.

Sample Space
A fair coin is flipped and a fair die is rolled. The sample space diagram below can be used to represent the outcomes.

| | 1 | 2 | 3 | 4 | 5 | 6 |
|---|------|------|------|------|------|------|
| H | H, 1 | H, 2 | H, 3 | H, 4 | H, 5 | H, 6 |
| T | T, 1 | T, 2 | T, 3 | T, 4 | T, 5 | T, 6 |

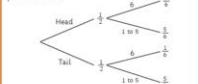
Pie Charts
To calculate the angle needed, we divide 360° by the total frequency. This tells us the number of degrees needed for 1 person. We can then multiply this by the frequencies to find the angles.

E.g. 30 people were asked their favourite colour:

| Favourite Colour | Frequency | Degrees |
|------------------|-----------|----------------------------|
| Red | 3 | $3 \times 360 = 108^\circ$ |
| Yellow | 5 | $5 \times 360 = 180^\circ$ |
| Blue | 2 | $2 \times 360 = 72^\circ$ |

$360 \div 30 = 12$

Tree Diagrams
A fair coin is flipped and a fair die is rolled. The tree diagram below can be used to represent some outcomes and their probabilities.



Probability
Probability is about estimating how likely something is to happen. We use fractions, decimals and percentages to describe probability. Only occasionally do we use words (for example, likely, impossible, certain) and we never use ratios!

Probability of an outcome = $\frac{\text{number of ways the outcome can happen}}{\text{total possible outcomes}}$
The probability of rolling a 5 on a fair die is $\frac{1}{6}$.

Scatter Graphs
Easy to spot as the coordinates are scattered. Always draw a straight line of best fit (which follows the trend of the data) when you see this type of graph. The line of best fit can be used to make estimates.

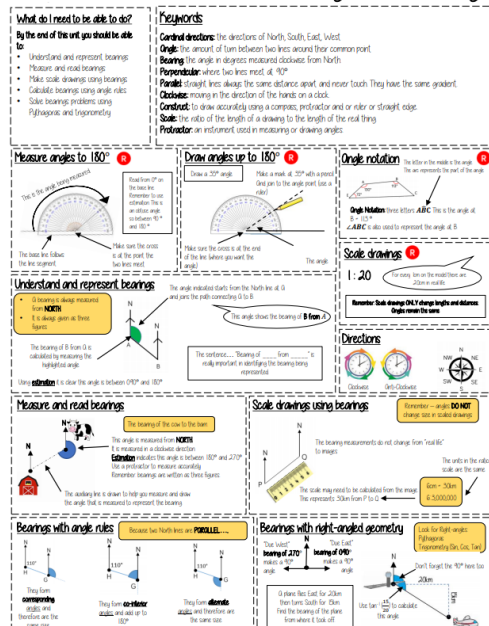
There can have positive correlation when the line slopes upwards or negative correlation when the line slopes downwards.
If you cannot draw a line of best fit, there is no correlation.

Mean from a Frequency Table
where f is the frequency and x is the data (e.g. time, number of pets). Remember, with continuous data you need to find the midpoint first.

An example of a page of a revision mat for foundation.

YEAR 10 — GEOMETRY...

Angles and bearings



An example of a Year 10 knowledge organiser available on the maths page

Prepare for your Maths GCSE with our free help

Get started straight away with:

- Predicted Papers** for the upcoming maths GCSE
- Topic Busters** to help you revise specific topics
- Demon Questions** to try harder GCSE questions
- Mini Mocks** for quick GCSE exam practise
- Sign up** for a free account to save all your progress and identify topics to improve your grade

| Papers | Best Mark | Last Attempt | Attempts | Video | Paper |
|---------------------------------|-----------|--------------|----------|-------|-------|
| Edexcel 2016 Paper 1 Prediction | 58% | 72% | 3 days | 11 | |
| Edexcel 2016 Paper 2 Prediction | 58% | 53% | 7 days | 36 | |
| Common Questions | 55% | 92% | 2 days | 5 | |
| Demon 1 | 58% | 52% | 7 days | 9 | |
| Demon 2 | 58% | 100% | 4 days | 25 | |
| Demon 3 | 22% | 22% | 5 days | 1 | |
| Demon 4 | - | - | - | - | |

Revision Videos

- Higher Demon Questions
- Foundation Demon Questions
- Grade 4/5 Topic Busters
- Grade 6/7 Topic Busters
- Revision Central
- GCSE Maths Revision By Grade
- GCSE Maths Revision By Topics

GCSE November 2020 Predictions >

- 3rd Nov
- 1MA1-1H Edexcel Higher Paper 1 Prediction
 - 1MA1-1F Edexcel Foundation Paper 1 Prediction
 - 8300/1H AQA Higher Paper 1 Prediction
 - 8300/1F AQA Foundation Paper 1 Prediction
 - J560/4 OCR Higher Paper 4 Prediction
 - J560/1 OCR Foundation Paper 1 Prediction

5 Work Out

$$3\frac{1}{2} \times 3\frac{1}{3}$$

Give your answer as a mixed number in its simplest form.

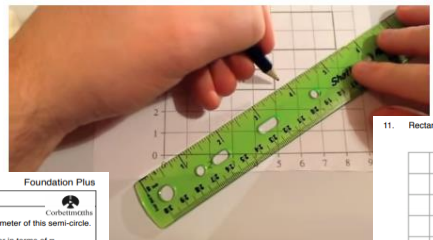
3 marks out of 3

$$11\frac{2}{3}$$

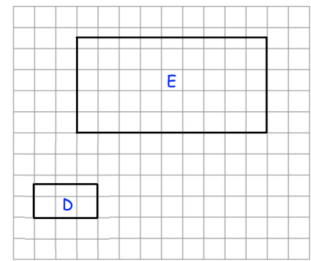
Next Question

$$\begin{array}{r} 11 \quad 2 \\ \times \quad 3 \\ \hline \end{array}$$

Finding the Centre of Enlargement Video



11. Rectangle E is an enlargement of rectangle D on the centimetre grid.



(a) What is the scale factor of the enlargement?

(1)

Rectangle E is enlarged by scale factor 20 to give rectangle F.

(b) Write down the length and width of rectangle F.

Length cm

Width cm

(2)



Corbettmaths

Welcome Videos and Worksheets Primary 5-a-day More Revision Cards Books

Welcome



5-a-day

Videos

Worksheets




Corbettmaths Revision Cards
Designed for the new 9-1 GCSE
GCSE Higher or
GCSE Foundation

Practice Papers

GCSE Revision Cards



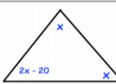
2nd January



12cm

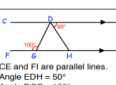
Foundation Plus

Calculate the perimeter of this semi-circle.
Leave your answer in terms of π



Find the value of x

The probability of a bus being late on any day is 0.2
James gets the bus on Monday and on Tuesday.
What is the probability that both buses are on time?



CE and FI are parallel lines.
Angle EDH = 50°
Angle DGF = 100°
Show, giving reasons, that triangle DGH is isosceles.

Write 50000 in standard form

Write 0.0043 in standard form

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- In this Topic
- Revise
 - Take an Online Exam
 - Worksheets & Exam Questions
 - Related Topics
 - Learning Resources

Line Graphs

A **line graph** is used to compare two sets of data that are related in some way. Most commonly, a **line graph** is used to show something changes over time – maybe over the course of a week, a year, or even longer.

Having an understanding of **scatter graphs** will help with this topic.

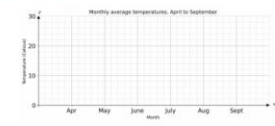
Statistics - Line Graphs

Example Questions

Question 1: Syd recorded the temperature outside his house at 1 : 00 pm every day for 6 months. He used the data to find the average temperature for each of those months. The average values he calculated are shown in the table below.

| Month | April | May | June | July | August | September |
|-----------|-------|-----|------|------|--------|-----------|
| Temp (°C) | 11 | 15 | 18 | 21 | 22 | 17 |

Draw a line graph to represent Syd's data.



[3 marks]

Level 4.9

Show Answer