

# Mathematics GCSE revision information sheet

## The Maths GCSE specification: AQA Maths GCSE 8300

<https://www.aqa.org.uk/subjects/mathematics/gcse/mathematics-8300/specification-at-a-glance>

As in 2022 and 2023 formulae sheets will be available to students during their exams summer 2024 copies can found on the AQA website follow the hyperlink below:

<https://www.aqa.org.uk/subjects/mathematics/gcse/mathematics-8300/assessment-resources>.

## Revision advice for students

- The best way to revise maths is to do maths! Your revision should be active, i.e. practising questions on key topics and making sure you know whether or not you have completed them correctly.
- Use your QLA to identify the topics you need to work on, then use Mathswatch to make revision notes and practise the questions.
- Once you are confident with a topic, use the exam style questions on any of the websites below to practice in more depth. Recommendations Maths Genie, OnMaths and Corbett maths
- MAKE SURE YOU HAVE A SCIENTIFIC CALCULATOR (Casio models best recommended) – you should use this for any calculator questions in your revision as well as bringing it to each maths lesson.

## Useful Maths revision websites

(The website names have been hyperlinked)

- [MathsWatch \(school provided platform\)](#): tasks set by class teacher, with revision videos to talk you through each type of question if needed. Mathswatch also allows independent work please see next page for instructions.
- [OnMaths](#): online practice papers, which are self-marking. Topic specific practice available as well.
- [Corbett Maths](#): revision videos and practice exam style questions. Make sure you check your work with the answers.
- [Maths Made Easy](#): a wealth of online revision material and practice questions.
- [Mr Tompkins EdTech](#) A teacher who has walkthroughs for lots of past maths papers
- [Maths Genie](#) topics by grade and links to past papers.
- [Revision maths](#) Past papers from various exam boards.

## Examination dates:

**Thursday 16<sup>th</sup> May (am): Paper 1 (non-calculator)**

**Monday 3<sup>rd</sup> June (am): Paper 2 (calculator)**

**Monday 10<sup>th</sup> June (am): Paper 3 (calculator)**

## Interactive questions

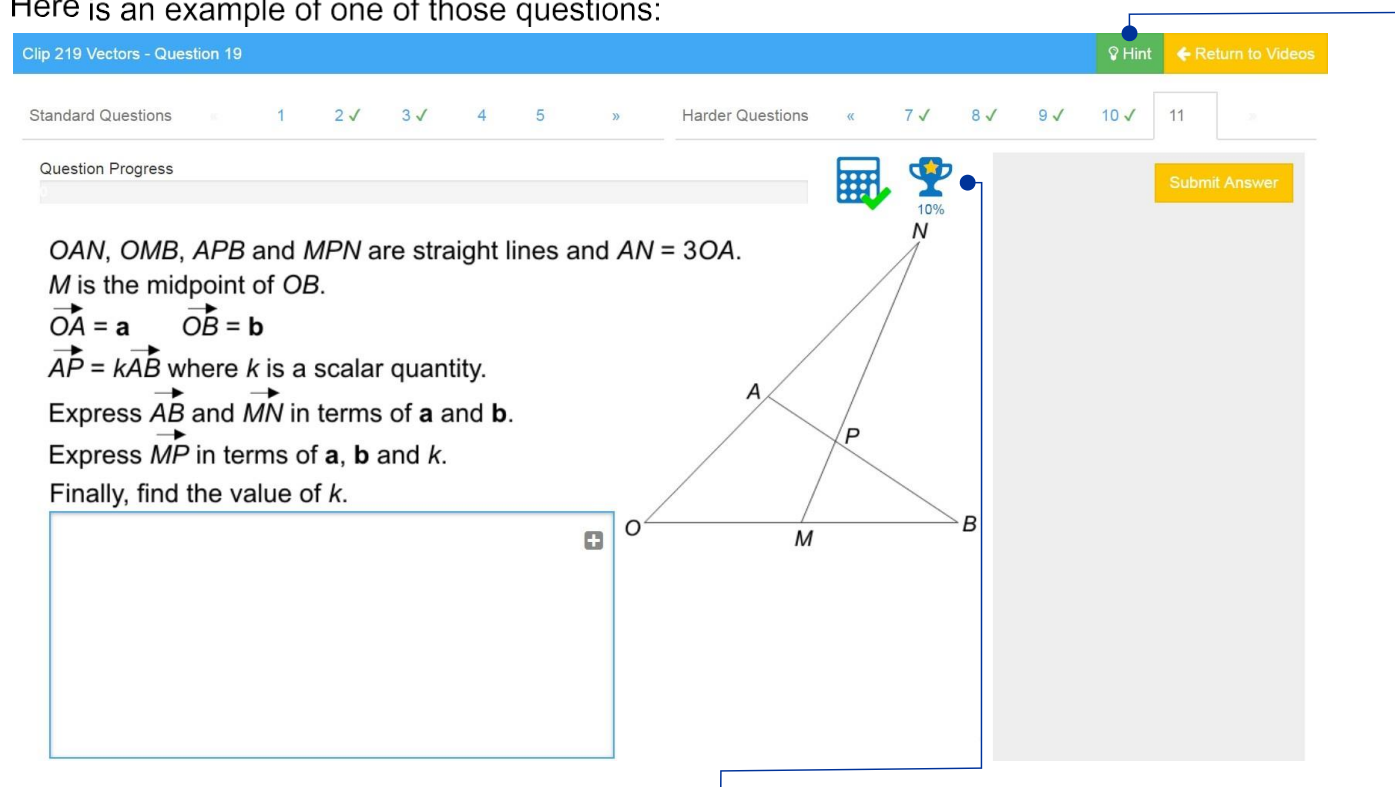
Our interactive questions have been designed with the sole aim of providing you with the most realistic experience of what exam questions are really like.

You will therefore find a rich variety of question types involving:

- Multiple choice answers
- Single answer inputs
- Multi-step answers
- 'Show that' answers
- Drawing answers

Many of our multi-step questions will require you to show your working in order to score full marks, just like in a real exam. Our marking bots have been programmed to mark your answer just as an examiner would.

Here is an example of one of those questions:



The screenshot shows a question interface with a blue header bar containing 'Clip 219 Vectors - Question 19' and buttons for 'Hint' and 'Return to Videos'. Below the header is a progress bar with 'Standard Questions' and 'Harder Questions' tabs. The 'Standard Questions' tab is active, showing a sequence of question numbers 1 through 11. Question 1 is highlighted, and a 'Question Progress' bar is visible. The question text is as follows:

$OAN$ ,  $OMB$ ,  $APB$  and  $MPN$  are straight lines and  $AN = 3OA$ .  
 $M$  is the midpoint of  $OB$ .  
 $\vec{OA} = \mathbf{a}$      $\vec{OB} = \mathbf{b}$   
 $\vec{AP} = k\vec{AB}$  where  $k$  is a scalar quantity.  
 Express  $\vec{AB}$  and  $\vec{MN}$  in terms of  $\mathbf{a}$  and  $\mathbf{b}$ .  
 Express  $\vec{MP}$  in terms of  $\mathbf{a}$ ,  $\mathbf{b}$  and  $k$ .  
 Finally, find the value of  $k$ .

To the right of the text is a geometric diagram showing a triangle  $OAB$  with vertex  $O$  at the bottom left,  $A$  at the top left, and  $B$  at the top right. Point  $M$  is the midpoint of  $OB$ . A line segment  $AN$  is drawn from  $A$  to a point  $N$  above  $B$ . A line segment  $MP$  is drawn from  $M$  to a point  $P$  on  $AN$ . The lines  $APB$  and  $MPN$  are straight lines. A trophy icon with '10%' is shown next to the diagram.

Below the question text is a large empty box for the answer, with a '+' icon in the bottom right corner. To the right of the answer box is a 'Submit Answer' button.

You will have noticed the trophy icon with its percentage value. This informs you of the success rate of all MathsWatch users who have attempted this question so far and therefore gives you a good indication of the challenge it presents.

For our most challenging questions you will also find a 'Hint' tab to help you if needed. Simply hover over it with your mouse to reveal one or two hints to help you on your way.

We sometimes hear this comment from students about our marking: "I am sure I got it right but MathsWatch is marking it wrong and not giving me all the marks!!!"

In 99.9% of the cases, if MathsWatch marks it wrong (or only gives partial marks) then a real examiner would probably do the same. If this happens, please see your teacher. They will soon find out why your answer isn't getting full marks. Or, they will contact us to query the answer on your behalf. Please note that we are unable to treat requests emailed to us directly by students.

## Answering multi-step questions

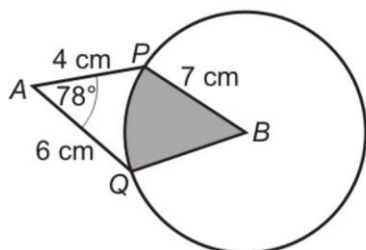
The type of questions students often find the hardest to tackle are the multi-step ones. Here is an example:

Question Progress



Submit Answer

The point  $B$  is at the centre of the circle.  
The points  $P$  and  $Q$  are on the circumference of the circle.



Calculate the area of the shaded sector.  
Take  $\pi$  to be 3.142 in your working.  
Give your final answer to 1 decimal place.

The ingenuity of MathsWatch is that it lets you submit each of your working steps, informing you whether or not you are heading in the right direction. A bit like a teacher would.

Here I tried using the cosine rule and clicked "Submit Answer". The 2 marks allocated suggest I am on the right path:

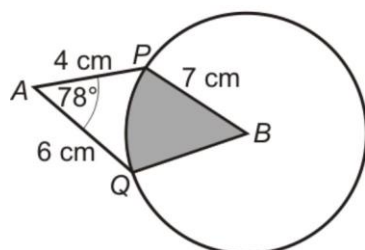
Question Progress

2 / 9 Marks



Submit Answer

The point  $B$  is at the centre of the circle.  
The points  $P$  and  $Q$  are on the circumference of the circle.



Calculate the area of the shaded sector.  
Take  $\pi$  to be 3.142 in your working.  
Give your final answer to 1 decimal place.

$$PQ^2 = 6^2 + 4^2 - 2 \times 6 \times 4 \times \cos 78^\circ$$

Encouraged with these first 2 marks, I carry on with my working and submit my next line:

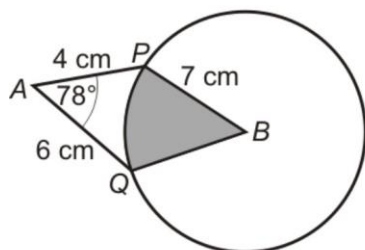
Question Progress

4 / 9 Marks



Submit Answer

The point  $B$  is at the centre of the circle.  
The points  $P$  and  $Q$  are on the circumference of the circle.



Calculate the area of the shaded sector.  
Take  $\pi$  to be 3.142 in your working.  
Give your final answer to 1 decimal place.

$$PQ^2 = 6^2 + 4^2 - 2 \times 6 \times 4 \times \cos 78^\circ$$

$$PQ^2 = 42.02 \text{ so } PQ = 6.48$$

Yes!!! I can do this. I can now merrily proceed with my logical steps until I achieve the full 9 marks for this question.

Only MathsWatch can cope with such a level of sophistication and guidance when it comes to helping you achieve your true potential. So from now on, when it comes to Maths revision, don't just watch it, MathsWatch it!!!

## Keeping track

The “My Progress” section will help you stay in control of your progress and achievements.



Search By Video Name			Qualification	Tier	Grade	Topic	Time Period
<div><div>Search Videos</div><div>Q</div></div>			<div>GCSE</div>	<div>All</div>	<div>All</div>	<div>All</div>	<div>All</div>
#	Skill	Video	Last Watched	Views	OMM	Interactive Questions	Last Attempted
1	★	Place Value	9:15 11/9/2018	1	0	29 / 29	21:02 11/9/2018
2	★	Ordering Integers		0	1	11 / 11	21:14 11/9/2018
3	★	Ordering Decimals	18:07 12/9/2018	1	0	20 / 20	15:50 13/9/2018
4	★	Reading Scales	17:41 10/9/2018	1	0	17 / 17	16:09 13/9/2018
5	✓	Simple Mathematical Notation	15:53 13/9/2018	1	0	20/25	16:17 13/9/2018
6a	★	Real-Life Tables - Time	16:50 13/9/2018	1	0	23 / 23	16:58 13/9/2018
6b	★	Real-Life Tables - Timetables and Distance Tables	18:40 13/9/2018	1	0	19 / 19	18:50 13/9/2018
7	★	Introduction to Algebraic Conventions		0	0	17 / 17	18:55 13/9/2018

Using the various filtering options, you can quickly identify your areas of strength and those in need of further development.

Clicking on the column headers can also help you sort the data in a more convenient way. This can be used very effectively to quickly remind yourself of which topics you recently covered, as well as of those that you haven't tackled yet.

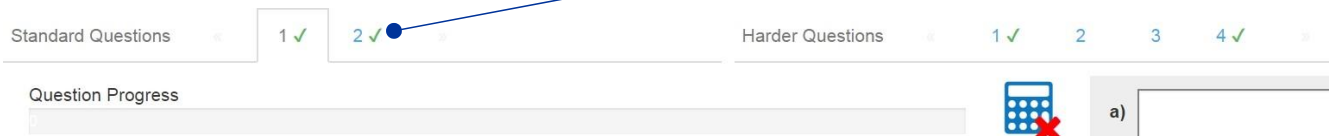
You can also get acknowledgement of your independent efforts by ‘**Acquiring**’ and ‘**Mastering**’ skills.

To Acquire a skill, simply watch fully its video and then successfully complete 2 Standard Interactive Questions and 2 Harder Interactive Questions.

A skill is Mastered by correctly answering all its Interactive Questions.

Please note that the “My Progress” page only records the activity undertaken independently. Results of questions attempted within your assignments are not included here.

Whether it is to improve your interactive questions score or just to refresh your memory on a topic, you will revisit videos and questions from time to time. To help you optimise your time and efforts, the system will remind you of which questions you have already successfully attempted in the past. This will be done with a green tick appearing on the question tab:



Here for instance, I can see that I have already managed to get 4 out of these 6 questions correct on a previous visit. I might now want to focus on the 2 remaining questions that I am yet to answer correctly or re-attempt them all if I wish.

Please be aware that your last attempt's score to a question will always prevail on what is kept on records.