



GCSE 9-1 Maths Revision Guide



Primrose Kitten

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Chances are if you want a maths/science book I've written it or I am writing it.

For full book listings visit www.PrimroseKitten.com and follow @primrose_kitten

First published 2017

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Acknowledgements

Thank you to my husband for putting up with my spending every night writing this and for correcting all of my SPG mistakes. To my sons for being the inspiration behind Primrose Kitten.



Hello Lovely Kittens

Thank you so much for purchasing this revision booklet. Many items covered in here is also covered in a corresponding set of videos which I have made neat and accessible on my terrific partner platform: TuitionKit.

On TuitionKit you'll be able to schedule many of my revision videos and partner content to help you organise your revision better, breaking it down into easy to handle bitesize chunks. You'll also find many of my other playlists and great resources from other Science and Maths teachers, as well as super English teachers too.

My videos are free when you sign up at www.tuitionkit.com/primrosekitten Using the discount code "kitten" will also give you a 20% discount on all the other material on the site for all your core GCSE subject revision.

To get a flavour for how TuitionKit's great features will help you revise, go to www.tuitionkit.com and sign up for your free 48-hour trial.

Wishing you all the best with your revision!

Primrose Kitten

xoxo



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Revision Techniques

<https://www.youtube.com/playlist?list=PL7O6CcKg0HaEAmHG0SbleDHfdJOQvUcnM>

- Why do you need to revise effectively? Revision techniques #1
- When should I start revising? Revision Techniques #2
- How to find your motivation and stay motivated. Revision Techniques #3
- 5 easy and effective ways to revise and study. Revision Techniques #4
- Flashcards. Revision Techniques #5
- Using past exam papers to study. Revision Techniques #6
- Colour - The easiest way to make study interesting. Revision Techniques #7
- How to revise for the new specification maths exams. Revision Techniques #8
- How to fill MASSIVE gaps in your knowledge. Revision Techniques #9
- How to best use your revision guide. Revision Techniques #10
- How best to use your revision guide, part 2. Revision techniques #11
- The easiest way to improve your grades, which you're going to hate!! Revision Techniques #12
- Study timetable. Revision techniques #13
- Study Timetable - Plan with Me. Revision Techniques #13
- Another easy way to improve your grades, which you're going to hate!! Revision Techniques #14
- Study Space. Revision Techniques #15

Don't believe me? - here are some more links to help you.

The science of revision: nine ways pupils can revise for exams more effectively.

The Guardian. Bradley Busch Psychologist @Inner_drive Tuesday 19 April 2016

Ditch the highlighter and teach a friend. Psychology shows us a lot about how to improve our memory and avoid distractions - here are some dos and don'ts

https://www.theguardian.com/teacher-network/2016/apr/19/students-revise-exams-revision-science?CMP=share_btn_tw



Revision Timetable

Planning Tips

1. Write your timetable in pencil (or make a version on the computer) so you can change things around if necessary.
2. Start by thinking about what activities you can't miss (dinner, clubs or TV programs) and put these into your timetable.
3. Plan in when you need to do your homework to get it in on time
4. On top of your homework time, aim for a minimum of 2 extra hours on a weekday and 4 hours each day over the weekend.
5. Plan to revise for 1 hour per subject each week (this is in addition to homework) fill in the table below to help you work out how much time you need to spend on revision
6. Fill in the timetable spreading out the subjects (e.g., don't do a whole day of Maths, do a bit each day) put contrasting subjects next to each other, to give your brain a break (e.g. English and Physics)
7. Stick to the timetable, it will help ensure you cover each subject and spread out your revision.

Subject	Group	Priority	Number of hours each week
Maths	Core	High (+2 hours)	
English Language	Core	High (+2 hours)	
English Literature	Core	High (+2 hours)	
	A-level choice	High (+2 hours)	
	A-level choice	High (+2 hours)	
	A-level choice	High (+2 hours)	
	A-level choice	High (+2 hours)	
	Subject I struggle with	Medium (+1 hour)	
	Subject I struggle with	Medium (+1 hour)	
	Subject I struggle with	Medium (+1 hour)	
	Subject I struggle with	Medium (+1 hour)	



Weekday

Time	Monday	Tuesday	Wednesday	Thursday	Friday
4.00 - 4.25					
5-minute break					
4.30 - 4.55					
5-minute break					
5.00 - 5.25					
5-minute break					
5.30 - 5.55					
5-minute break					
6.00 - 6.25					
5-minute break					
6.30 - 6.55					
5-minute break					
7.00 - 7.25					
5-minute break					
7.30 - 7.55					
5-minute break					
8.00 - 8.25					
5-minute break					
8.30 - 9.00					



Weekend

Time	Saturday	Time	Sunday
5-minute break			
5-minute break			
5-minute break			
5-minute break			
5-minute break			
5-minute break			
5-minute break			



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<https://www.patreon.com/PrimroseKitten>

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- ✿ Get a first look at new videos
- ✿ Get advanced copies of sheets and books
- ✿ Spread out your revision and get sent flash cards and predicted papers each month





Number - Knowledge Checklist

Knowledge Checklist	Self-assessment			Bits to help if you don't understand	
	First review 4-7 months before exam	Second review 1-2 months before exam	Final review Week before exam	Primrose Kitten	Other places
These are the bits the exam board wants you to know, make sure you can do all of these...					
I can define the term integer	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can order positive integers	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2fxHrks
I can order negative integers	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2xIejjh
I can order fractions	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can order decimals	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can use =, ≠, <, >, ≤, ≥	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can define the mathematical term operation	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can add, subtract, divide and multiply integers	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2fyzrjz
I can add, subtract, divide and multiply fractions	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2fy2T33
I can add, subtract, divide and multiply decimals	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2xGbkdo
I can order operations; and identify which should be used first.	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2xDH2Z5
I can recognise opposite operations	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can define and identify prime numbers	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2kbSUM2
I can define and identify factors	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2xIGH4O



I can define and identify multiples	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can define and identify common factors	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can define and identify common multiples	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can define and identify highest common factor (HCF)	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can define and identify lowest common multiple (LCM)	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can define and identify prime factorisation	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2fEHUFB
I can identify and calculate square numbers	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2fEHhvJ
I can identify and calculate cube numbers	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2fEHhvJ
I can identify and calculate square roots	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2fEHhvJ
I can identify and calculate cube roots	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2fFcteD
I can calculate powers of 4 or higher	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2fyF7dz
I can calculate roots	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can calculate using fractions	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2fy2T33
I can calculate using π	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can calculate and interpret standard form	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2xEQdbK
I can convert fractions to decimals and decimals to fractions Flashcards to help with this available to download from www.primrosekitten.com	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2x3Pe06
I can use fractions in ratios	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2wp2vkl



I can use percentages	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2fYsJnD
I can recall and convert standard units for mass	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can recall and convert standard units for time	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can recall and convert standard units for length	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can recall and convert standard units for money	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can use estimation to calculate quantities	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can round numbers to a specified number of decimal places or significant figures	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2wpK2nY
I can use inequalities to show the interval a number might fall between	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can interpret limits of accuracy	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
Higher tier only					
I can estimate powers and roots for a given positive number	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can calculate with surds	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹	https://youtu.be/KfCtSYdvQoc	TuitionKit http://bit.ly/2wqmvDo
I can simplify expression involving surds	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2wqmvDo
I can change recurring decimals to fractions and fractions in to recurring decimals	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2xIHqz5
I can determine upper and lower bound of accuracy	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can use the product rule for counting	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can use fractional indices	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2x3HakS



Algebra - Knowledge Checklist

Knowledge Checklist These are the bits the exam board wants you to know, make sure you can do all of these...	Self-assessment			Where to go if you don't understand	
	First review 4-7 months before exam	Second review 1-2 months before exam	Final review Week before exam	Primrose Kitten	Other places
I can recognise that $a \times b$ is equal to ab	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can recognise that $4a$ is equal to $a + a + a + a$ or $4 \times a$	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2x4Bjam
I can recognise that y^2 is equal to $y \times y$	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2kbs3Qu
I can recognise that $\frac{a}{b}$ is equal to $a \div b$	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2yOioT5
I can use $a \times b$ is equal to ab	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can use $4a$ is equal to $a + a + a + a$ or $4 \times a$	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can use y^2 is equal to $y \times y$	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can use $\frac{a}{b}$ is equal to $a \div b$	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can put numbers into an algebraic expression and if needed calculate an answer	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2fyAMqN
I can collect like terms in an algebraic expression	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can multiply out a number in front of a bracket	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹	https://youtu.be/WikXr23klJI	TuitionKit http://bit.ly/2wVFchO
I can factorise an algebraic expression by taking out common factors	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2fGIqDf
I can multiply two expressions	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2wVFchO



I can factorise $x^2 + bx + c$	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2kaUKwR
I can simplify an algebraic expression	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can rearrange an algebraic expression to change the subject	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹	https://youtu.be/L--GzM_nddE	TuitionKit http://bit.ly/2xIeF9q
I can use and manipulate surds	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹	https://youtu.be/KfCtSYdvQoc	TuitionKit http://bit.ly/2wqmvDo
I can use the laws of indices	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2fyF7dz
I can use functions	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2xFO3bD
I can plot and determine coordinate from a graph	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can plot a line from the expression $y = mx + c$	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2xSbIVW
I can identify parallel lines from the expression $y = mx + c$	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2xSbIVW
I can determine the expression $y = mx + c$ from a graph	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2xSbIVW
I can find the gradient of a line	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2wplFGJ
I can find the intercept of a line	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can identify roots from a graph	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can identify intercepts from a graph	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can identify turning points from a graph	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can recognise and sketch the graphs for linear functions	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can recognise and sketch the graphs for quadratic functions	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2yNtzvs



I can recognise and sketch the graphs for cubic functions	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can recognise and sketch the graphs for $\frac{1}{x}$	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can plot graphs	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can interpret distance-time graphs	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can interpret velocity-time graphs	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can solve an equation	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2yfcxcH
I can find approximate solutions to an equation from a graph	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2kaJpgj
I can solve quadratic equations by factorising	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can solve two simultaneous equations	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹	https://youtu.be/y5BKXkTwHTU	TuitionKit http://bit.ly/2x3Yug0
I can make equations from a situation given in text	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can solve linear inequalities and show the answer on a number line	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2xS7Xjj
I can find terms in a sequence from the n^{th} term	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2x40S07
I can find the n^{th} term from a sequence	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can recognise and use square numbers	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can recognise and use cube numbers	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can recognise and use triangular numbers	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
Higher tier only					
I can simplify algebraic expression involving fractions	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can factorise quadratic equations ($ax^2 + bx + c$)	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2fFU7d4



I can use algebra to construct proofs	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹	https://youtu.be/nkzLA4c2sA0	
I can interpret inverse functions	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2fyD0Gv
I can interpret composite functions	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2xNOa47
I can identify perpendicular line from a graph	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can identify turning points on a graph by completing the square	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can recognise, sketch and interpret graphs for exponential functions	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2yPqV8y
I can recognise, sketch and interpret graphs for trigonometric functions (sin, cos and tan)	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can sketch translations of a functions	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can sketch transformations of a function	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2yO6Sas
I can plot and interpret exponential graphs	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can calculate and estimate the gradients of graphs	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can calculate and estimate the area under a graph	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can determine distance from a distance time graph	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can determine speed from a distance time graph	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can determine distance from a velocity time graph	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can determine speed from a velocity time graph	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can use the equation of a circle to find the equation of a tangent	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2x4Vwww



I can solve quadratic equations by completing the square	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2yzzi6Y
I can solve quadratic equations by using the quadratic formula	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2x4WyJb
I can find approximate solutions to an equation using iteration	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2yqxBiE
I can solve linear inequalities using a graph	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can find the n^{th} term for quadratic sequences	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2wpuyAj



Ratio, Proportion and Rates of Change - Knowledge Checklist

Knowledge Checklist	Self-assessment			Bits to help if you don't understand...	
	First review 4-7 months before exam	Second review 1-2 months before exam	Final review Week before exam	Primrose Kitten	Other places
These are the bits the exam board wants you to know, make sure you can do all of these...					
I can recall and convert standard units for time	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can recall and convert standard units for length	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can recall and convert standard units for area	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can recall and convert standard units for volume	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can recall and convert standard units for mass	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can recall and convert standard units for speed	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can recall and convert standard units for rates of pay	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can recall and convert standard units for prices	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can recall and convert standard units for density	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can recall and convert standard units for pressure	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can interpret and use scale factors	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can interpret and use scale diagrams	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can interpret and use maps	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can interpret and use ratio notation	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can apply ratio to real life context	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can express a relationship as a ratio	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can use parts to work out ratios	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can link ratios to fractions	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can use and interpret percentages	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can calculate percentage change	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can compare two things using percentages	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		



I can calculate interest	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can solve questions that involve direct proportionality	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2xJ2GZd
I can solve questions that involve inverse proportionality	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2xJ2GZd
I can compare different quantities using ratios	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can recall that x being inversely proportional to Y is the same as x being proportional to $\frac{1}{y}$	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2xJ2GZd
I can use equations to show direct and inverse proportion	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can recognise direct and inverse proportion on a graph	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can recall that the gradient of a line shows the rate of change	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can calculate compound interest	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
Higher tier only	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can use a tangent to find the gradient at a point on a line	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can determine rate of change from a gradient	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can use iteration	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2yf7ed8



Geometry and Measures - Knowledge Checklist

Knowledge Checklist	Self-assessment			Bits to help if you don't understand...	
	First review 4-7 months before exam	Second review 1-2 months before exam	Final review Week before exam	Primrose Kitten	Other places
These are the bits the exam board wants you to know, make sure you can do all of these...					
I can define the term point	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can define the term line	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can define the term vertices	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can define the term edge	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can define the term plane	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can define the term parallel lines	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can define the term perpendicular lines	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can define the term right angles	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can define the term polygons	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can define the term regular polygon	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can define the term reflection	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can define the term rotational symmetry	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can use a ruler and compass to draw the perpendicular bisect of a line	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can use a ruler and compass to solve loci problems	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can recall the rules of angles to find angles at a point	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2wqiGOy
I can recall the rules of angles to find angles on a straight line	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2wqiGOy
I can recall the rules of angles to find vertically opposite angles	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2wqiGOy



I can recall the rules of angles to find corresponding angles on parallel lines (do not call them Z angles)	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2wqiGOy
I can recall the rules of angles to find the sum of angles in a triangle	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2yzmxJL
I can recall and apply the properties of a square	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2fyTrTp
I can recall and apply the properties of a rectangle	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2fyTrTp
I can recall and apply the properties of a parallelogram	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2fyTrTp
I can recall and apply the properties of a trapezium	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2fyTrTp
I can recall and apply the properties of a kite	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2fyTrTp
I can recall and apply the properties of a rhombus	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2fyTrTp
I can recall and apply the rules of congruence triangles (SSS, SAS, ASA, and RHS)	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can recall and apply the properties of an equilateral triangle	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can recall and apply the properties of an isosceles triangle	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can rotate a shape	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2kb8eJ5
I can reflect a shape	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2xKhrLk
I can translate a shape	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2x3XEtM



I can enlarge a shape	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2yzgzIP
I can define the term centre of a circle	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can define the term radius	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can define the term chord	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can define the term diameter	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can define the term circumference	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can define the term tangent	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can define the term arc	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can define the term sector	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can define the term segment	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can identify properties (including; faces, edges, surfaces and vertices) of cubes	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2yf5653
I can identify properties (including; faces, edges, surfaces and vertices) of cuboids	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2yf5653
I can identify properties (including; faces, edges, surfaces and vertices) of prisms	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2yf5653
I can identify properties (including; faces, edges, surfaces and vertices) of cylinders	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2yf5653
I can identify properties (including; faces, edges, surfaces and vertices) of pyramids	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2yf5653
I can identify properties (including; faces, edges, surfaces and vertices) of cones	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2yf5653
I can identify properties (including; faces, edges, surfaces and vertices) of spheres	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2yf5653
I can convert a 2D shape in to a 3D shape and a 3D shape into a 2D shape	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2x2OGfX
I can measure lines and angles	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2wqiGOy



I can measure lines on a map and use scale conversions	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2fFXuRF
I can use bearings	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2k9hKMN
I can recall and use how to find the area of a triangle Flashcards to help with this are available on www.primrosekitten.com	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹	https://youtu.be/VXwW7tWv_pw	
I can recall and use how to find the area of a parallelogram	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹	https://youtu.be/VXwW7tWv_pw	TuitionKit http://bit.ly/2kbo3PY
I can recall and use how to find the area of a trapezium	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹	https://youtu.be/VXwW7tWv_pw	TuitionKit http://bit.ly/2fZlagI
I can recall and use how to find the volume of a cuboid	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹	https://youtu.be/VXwW7tWv_pw	TuitionKit http://bit.ly/2fE2sOz
I can recall and use how to find the volume of a cylinder	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹	https://youtu.be/VXwW7tWv_pw	TuitionKit http://bit.ly/2fE2sOz
I can recall the formulae to determine the circumference of a circle	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹	https://youtu.be/VXwW7tWv_pw	TuitionKit http://bit.ly/2xRNI3
I can recall the formulae to determine the area of a circle	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹	https://youtu.be/VXwW7tWv_pw	TuitionKit http://bit.ly/2xRNI3
I can recall the formulae to determine the perimeter of a 2D shape	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹	https://youtu.be/VXwW7tWv_pw	TuitionKit http://bit.ly/2xKfQFk
I can recall the formulae to determine the surface area of a sphere	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹	https://youtu.be/VXwW7tWv_pw	
I can recall the formulae to determine the volume of sphere	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹	https://youtu.be/VXwW7tWv_pw	
I can recall the formulae to determine the surface area of a pyramid	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹	https://youtu.be/VXwW7tWv_pw	
I can recall the formulae to determine the volume of a pyramid	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹	https://youtu.be/VXwW7tWv_pw	



I can recall the formulae to determine the surface area of a cone	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹	https://youtu.be/VXwW7tWv_pw	
I can recall the formulae to determine the volume of a cone	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹	https://youtu.be/VXwW7tWv_pw	
I can calculate arc lengths	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2xRNIm3
I can calculate angles in a circle	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2xRNIm3
I can calculate sectors of a circle	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2xRNIm3
I can determine relationships in similar shapes	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can recall and apply the formula for Pythagoras $a^2 + b^2 = c^2$	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹	https://youtu.be/VXwW7tWv_pw	TuitionKit http://bit.ly/2yexcxb
I can recall and apply the formula for the trigonometric ratios (sin, cos, tan)	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹	https://youtu.be/VXwW7tWv_pw	
I can recall the exact values of $\sin \theta$ and $\cos \theta$ where $\theta = 0^\circ, 30^\circ, 45^\circ, 60^\circ$ and 90° ; and know the exact value of $\tan \theta$ where $\theta = 0^\circ, 30^\circ, 45^\circ$ and 60° Flashcards to help with this are available on www.primrosekitten.com	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹	https://youtu.be/a2EH5u7FRHw	TuitionKit http://bit.ly/2kdSFRO
I can describe a translation as a vector	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2yzaZ9a
I can add vectors	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2yzaZ9a
I can subtract vectors	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2yzaZ9a
I can multiply vectors	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2yzaZ9a



Higher tier only					
I can enlarge a shape by a negative factor	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can describe a combination of rotations, reflections and translations	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can apply circle theorem	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can prove circle theorem	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹	https://youtu.be/pYQcJ8_yskM	
I can recall and apply $\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹	https://youtu.be/VXwW7tWv_pw	TuitionKit http://bit.ly/2x5asKZ
I can recall and apply $a^2 = b^2 + c^2 - 2bc \sin C$	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹	https://youtu.be/VXwW7tWv_pw	TuitionKit http://bit.ly/2xJ2OIe
I can recall and apply area of a non-right angled triangle = $\frac{1}{2} ab \sin C$	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹	https://youtu.be/VXwW7tWv_pw	TuitionKit http://bit.ly/2fG8K00



Probability - Knowledge Checklist

Knowledge Checklist	Self-assessment			Bits to help if you don't understand	
	First review 4-7 months before exam	Second review 1-2 months before exam	Final review Week before exam	Primrose Kitten	Other places
These are the bits the exam board wants you to know, make sure you can do all of these...					
I can describe the probability of an event from a table or tree	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2ydShI8
I can determine if an event is fair, random or equally likely	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2fYb4MX
I can give a value (out of 1) to the probability of an event	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2fYb4MX
I can recall that total probability must equal 1	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can combine sets of probability data using tables	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can combine sets of probability data using Venn diagrams	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2wqIOFi
I can combine sets of probability data using trees	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2ydShI8
I can combine sets of probability data using grids	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can calculate the probability of a combination of independent events	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2xFTkzU
I can calculate the probability of a combination of dependent events	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2x4PQml
Higher tier only					
I can calculate conditional probability	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		



Statistics - Knowledge Checklist

Knowledge Checklist	Self-assessment			Bits to help if you don't understand ...	
	First review 4-7 months before exam	Second review 1-2 months before exam	Final review Week before exam	Primrose Kitten	Other Places
These are the bits the exam board wants you to know, make sure you can do all of these...					
I can determine the properties of a population or distribution from a sample	☹ ☹ ☹	☹ ☹ ☹	☹ ☹ ☹		
I can interpret, construct and use frequency tables	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2yzos0S
I can interpret, construct and use bar charts	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2yzVdLx
I can interpret, construct and use pie charts	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2fHQWBL
I can interpret, construct and use pictograms	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2xNhUOF
I can interpret, construct and use line charts	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2x4Qdx6
I can compare sets of data from graphs	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2xNhUOF
I can calculate the median	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2x3QVQa
I can calculate the mode	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2x3QVQa
I can calculate the mean	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2x3QVQa
I can calculate the range	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2yNqKu5



I can calculate the modal class	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2fXxON4
I can apply statistic to a population	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can interpret scatter graphs	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2fZj9RB
I can recognise correlation	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2fZ2xcB
I can draw a line of best fit	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2fZ2xcB
I can make predictions from data	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
I can work out future trends	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		
Higher tier only					
I can construct and interpret histograms with equal and unequal class intervals	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2yg5hNu
I can construct and interpret box plots	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2wqf11X
I can determine quartiles and inter-quartiles ranges	☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹		TuitionKit http://bit.ly/2yNqKu5