

GCSE Mathematics
15 week revision timetable
for Foundation Tier

Exam advice

- Make sure you have all the necessary equipment
- Write in black or blue ink
- For diagrams use an HB pencil, but it should not be too sharp
- Add to diagrams if appropriate
- Underlining key words in the question may help to focus your mind
- Show all your workings in the space provided for each question
- Don't alter your working - cross it out and replace it
- Don't give the markers a choice of answers or methods
- Before rounding, show more figures than the question asks for
- Make a rough estimate of calculations. When estimating work to 1sf.
- Whenever possible, ask yourself "is my answer sensible?"
- Check your answers
- Don't take measurements from a diagram, if you are told that it is not accurately drawn
- Tracing paper is useful for transformations, use it if available.
- Show all construction lines. Do not rub any out.
- Don't rush but use time carefully
- Use the mark scheme to inform your answers
- Check the units given in the question and in your answer
- Remember to use your calculator during the calculator paper.
- And the obvious - "dnt use txt or slng in xams coz xminrs nd 2 no what u r saing".

When revising.....

- don't leave your revision until the night before the examination
- create a revision timetable and stick to it
- study in a place where you can concentrate
- do lots of questions, especially past examination questions
- start revising by topics and nearer the examination mix up the questions
- focus on your weaker topics but revise others as well
- learn formula and facts off by heart, consider writing prompt sheets
- remember to use diagram, statement, working answer, units
- know which level and which paper the topics are aimed at
- consider using a revision workbook
- use online revision websites if you enjoy working in that way.

Some useful websites.....

- www.mymaths.co.uk
- www.mrbartonmaths.com
- www.mathsbot.co.uk
- www.mathswatch.co.uk



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- www.bbc.co.uk/education/gcsebitesize/maths

Check you understand these key terms

- Write down
- Work out, solve or calculate
- Estimate
- Simplify or simplify fully
- Factorise or factorise completely
- Expand, expand and simplify or multiply out
- Give reasons
- Compare the two sets of data
- Describe or describe fully
- Sketch
- Construct
- Make an accurate drawing
- Measure

This is not an exhaustive list of everything covered in the exam but here is a summary of the topics to be covered in this revision timetable

Weeks to go until the exam	Topic
15.	Area and volume
14.	Angles
13.	Number
12.	Solving equations
11.	Statistical charts
10.	Completing linear tables and graphs
9.	Percentages, decimals and fractions
8.	Sequences and calculating the n^{th} term
7.	Further algebra
6.	Probability
5.	Averages
4.	Naming shapes and constructions
3.	Two way tables and time tables
2.	Calculator and estimating
1.	Negative numbers



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Weeks to go: 15	Topic: Area and Volume		
Can you... <ul style="list-style-type: none">- Can find the perimeter of a 2-D shape- Can find the area of a 2-D shape by counting squares- Can find the area of a rectangle- Can find the area of a triangle- Can find the area of a parallelogram- Can find the area of a trapezium- Can find the area of a compound shape - Able to work out whether an expression or formula represents a length, area or volume- Able to calculate circumference of a circle- Able to calculate area of a circle- Able to find perimeter and the area of shapes such as semicircles- Able to find the volume of a 3-D shape by counting cubes- Know the formula to find the volume of a cuboid- Able to find the surface area of a cuboid- Able to find the surface area and volume of a prism- Able to find the volume of a cylinder- Know how to find the density of a 3-D shape		RAG	Own notes:



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<p>Facts:</p> <p>Area of rectangle = lw</p> <p>Area of triangle = $\frac{1}{2}bh$</p> <p>Area of parallelogram = bh</p> <p>Area of trapezium = $\frac{1}{2} \times (\text{sum of parallel sides}) \times \text{distance between them}$</p> <p>Area of Circle = πr^2</p> <p>Circumference of $C = 2\pi r = \pi D$</p> <p>Volume of cuboid = lwh</p> <p>Volume of cylinder = πr^2h</p> <p>Density = Mass/Volume</p>	<p>Key Words:</p> <p>Perimeter, Area, Rectangle, Triangle, Parallelogram, Trapezium, Compound shape, Dimensions, Pi (π), Diameter, Radius, Vertical Height, Circumference, Prism, Cylinder, Cuboid, Cube, Surface Area</p>
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Weeks to go:	Topic:		
14	Angles		
<p>Can you...</p> <ul style="list-style-type: none">-Measure and draw acute, obtuse and reflex angles-Calculate angles on a straight line and angles at a point-Calculate the size of angles in a triangle -Calculate the sum of interior angles in a polygon-Calculate the exterior angles and the interior angles of a regular polygon-Calculate angles in parallel lines -Use angle properties in special quadrilaterals-Use a bearing to specify a direction	RAG	Own notes:	



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Facts: Sum of angles on a line =180 Sum of angles in a triangle = 180 Sum of angles at a point = 360 Sum of angles inside n-sided polygon is $180(n-2)$ Alternate Angles (parallel lines) are equal Corresponding Angles (parallel lines) are equal Interior + Exterior Angles add to 180	Key Words: Acute, Obtuse, Reflex, Straight line, Parallel Lines, Bearing, Interior and Exterior Angles, Polygon, Protractor, Angles at a point, Angles on a straight line, Equilateral Triangle, Isosceles Triangle, Quadrilateral, Alternate Angles, Corresponding Angles, Vertically Opposite Angles, Kite, Parallelogram, Rhombus, Trapezium
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Weeks to go: 13	Topic: Number	
Can you... <ul style="list-style-type: none">- Find factors and multiples- Write down simple squares, cubes and square roots- Find a square root using a calculator- Calculate simple powers of numbers- Recognise 2-digit prime numbers- Multiply and divide by powers of 10- Multiply together multiples of 10- Write numbers in prime factor form- Work out the HCF and LCM of 2 numbers- Simplify multiplication and division of powers	RAG	Own notes:



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Facts: The first 10 prime numbers 2 3 5 7 11 13 17 19 23 29 The first 10 square numbers 1 4 9 16 25 36 49 64 81 100 The first 5 cube numbers 1 8 27 64 125	Key Words: Factor Multiple Prime number Prime factor Square Cube Square root Lowest common multiple (LCM) Highest common factor (HCF)
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Weeks to go: 12	Topic: Solving Equations	
Can you... Solve equation such as $4x=12$ Solve equation such as $3x+2=7$ Solve equation such as $3x+7=x-6$ set up simple equations from given information Solve inequalities such as $3x+2<5$ Solve equation such as $3(x-2) = 5x + 8$ Solve equations by trial and improvement Rearrange simple formulas	RAG	Own notes:
Facts:	Key Words: Equation Inequality Rearrange	



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<p>Weeks to go 11</p>	<p>Topic: Statistical Charts</p>		
<p>Can you... -draw and read information from pictograms, bar charts, dual bar charts and pictograms -work out the total frequency from a frequency table and compare data in bar charts -read and use two way tables to find probability and other mathematics -read information from a stem and leaf diagram -draw an ordered stem and leaf diagram -interpret and draw a pie chart -draw a line of best fit on a scatter diagram -recognise the different types of correlation -design a data collection sheet -interpret a scatter diagram -use the line of best fit to predict values -design and criticise questions for questionnaires Draw and interpret line graphs Interpret time series draw and interpret frequency polygons</p>		<p>RAG</p>	<p>Own notes:</p>
<p>Facts: Heights of bars represent frequency(total) Include a key Stem and leaf must be ordered and must have a key. Three main types of correlation Positive, Negative and No correlation Questionnaire must not have leading questions, Answers must not overlap No personal questions</p>	<p>Key Words: Two way table, pictograms, bar charts, frequency diagrams, stem and leaf diagram, pie chart, scatter diagram , positive correlation, negative correlation, no correlation, line of best fit, questionnaires, survey, data collection sheet, frequency polygon axes</p>		



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Weeks to go: 10	Topic: Linear Tables and Graphs	
Can you... Read off values from a conversion graph Plot points in all four quadrants Read off distances and times from a travel graph Use a table of values to draw a linear graph Find an average speed from a travel graph Draw a linear graph without being given a table of values Find the gradient of a line Use " $y=mx+c$ " to draw a line	RAG	Own notes:
Facts: The y axis points up to the sky "Along the corridor and up the stairs" Average speed = distance \div time taken In " $y=mx+c$ " m represent the gradient and c represents the y-intercept	Key Words: Axis x and y coordinates Linear Gradient y-intercept Average speed	

Weeks to go: 9	Topic: Percentages, Decimals and Fractions
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<p>Can you...</p> <ul style="list-style-type: none">- Change top-heavy fractions in to mixed numbers- Change mixed numbers in to top-heavy fractions- Work out a reciprocal- Work out and recognise terminating and recurring decimals- Add and subtract fractions- Solve fraction problems expressed in words <ul style="list-style-type: none">- Compare fractions and decimals by using equivalence- Multiply a fraction by a fraction- Add and subtract mixed numbers- Write a quantity as a fraction of another- Find any percentage of a quantity- Express one quantity as a percentage of another- Find a percentage increase		RAG	Own notes:
<p>Facts:</p> <ul style="list-style-type: none">- $\frac{1}{2} = 0.5 = 50\%$- $\frac{1}{3} = 0.333... = 33.333...%$- $\frac{3}{10} = 0.3 = 30\%$- You can find equivalence between all fractions, percentages and decimals- When adding, subtracting or comparing fractions, you need to first find the same denominator- $115\% = 1.15$ - This decimal can be used as a multiplier in calculations	<p>Key Words:</p> <p>Cancel, fraction, denominator, equivalent fraction, lowest common denominator, numerator, lowest terms, mixed number, top-heavy, proper fraction, rational number, reciprocal, recurring decimal, terminating decimal, decimal equivalents, multiplier</p>		

<p>Weeks to go:</p> <p>8</p>	<p>Topic:</p> <p>Sequences and nth term</p>
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<p>Can you...</p> <ul style="list-style-type: none">- Find any term in a number sequence and recognise patterns- Substitute numbers into an n^{th} term rule- Give the n^{th} term of a linear sequence- Know the n^{th} term of a sequence of powers of 2 or 10- Use sequences in pattern problems- Recognise and use sequences of triangular, square and cube numbers, simple arithmetic progressions, Fibonacci type sequences, quadratic sequences, and simple geometric progressions		RAG	Own notes:
<p>Facts:</p> <p>First 5 powers of 2</p> <p>2 4 8 16 32</p> <p>First 5 powers of 10</p> <p>10 100 1 000 10 000 100 000</p>	<p>Key Words:</p> <p>Sequence n^{th} term Power</p>		

<p>Weeks to go:</p> <p>7</p>	<p>Topic:</p> <p>Algebra continued</p>
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<p>Can you...</p> <ul style="list-style-type: none">- Find the next term in a sequence and describe the pattern- Create terms of a sequence by substituting values in to nth term- Find the nth term of a sequence- Find nth term from practical problems- Draw quadratic graphs- Rearrange formulae		RAG	Own notes:
<p>Facts:</p> <ul style="list-style-type: none">- most patterns you will come across will go up/down by the same amount- nth term is a formula that helps you find any term in a sequence- When working out nth term for a practical problem, write out the number sequence that you notice to help you- keep an eye out for 'special sequences'. These do not go up by the same amount. Some examples are triangular numbers, square numbers, cube numbers etc.- Quadratic graphs are not straight lines. You can normally recognise these as they will have an x^2 term in it.- When changing the subject formula, you want the subject by itself on one side of the equals sign. To do this, you solve the way you normally solve an equation - doing the same thing to both sides			<p>Key Words:</p> <p>Pattern sequence, consecutive, difference, term, sequence, substitute, quadratic graph, quadratic equation, do the same to both sides expression, rearrange, subject, transpose, variable</p>

Weeks to go: 6	Topic: Probability
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<p>Can you... Use the probability scale and the basic language of probability Calculate simple probabilities based on outcomes Calculate probability event will not happen Calculate probability of two outcomes Calculate experimental probabilities and relative frequencies from experiment Complete and use sample space diagrams to find probabilities for combined events Predict the number of successful events using relative frequency</p>		RAG	Own notes:
<p>Facts: $\text{Prob}(\text{event}) = \frac{\text{no of times event happens}}{\text{Total number of outcomes}}$ Prob not happening = 1 - prob event happens $\text{Prob}(A \text{ or } B) = \text{prob}(A) + \text{prob}(B)$ Relative frequency = $\frac{\text{frequency of event}}{\text{Total number of trials}}$</p>	<p>Key Words: Outcome, event, frequency, relative frequency, certain, impossible, likely, sample space diagram</p> <p>Probability - fraction or decimal between 0 and 1</p> <p>Pack of cards: 52 cards 4 suits (hearts, diamonds, spades, clubs) 13 cards (Ace to King) in each suit</p>		

Weeks to go: 5	Topic: Statistical Analysis
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<p>Can you...</p> <ul style="list-style-type: none">- Find the mode and median of a list of data- Find the range of a set of data and find the mean of a small set of data- Find the mean of and range from a stem and leaf diagram- Find the mean from a frequency table of discrete data and draw a frequency polygon for discrete data- Decide which is the better average to use for a set of data with reasons- Find the median from a stem and leaf diagram- Find an estimate of the mean from a grouped table of continuous data and draw a frequency polygon for continuous data		RAG	Own notes:
<p>Facts:</p> <p>Mean: add all together and divide by how many there are</p> <p>Mode: most common</p> <p>Median: put in order and find the middle Value.</p> <p>Median: If two numbers are in the middle find the middle of those two</p> <p>Range: Highest take away the lowest</p>	<p>Key Words:</p> <p>Mean mode, Median Range, Stem and leaf Frequency Modal value Modal class Average Frequency table Grouped date Estimated mean</p>		

<p>Weeks to go:</p> <p>4</p>	<p>Topic:</p> <p>Naming Shapes and Construction</p>
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<p>Can you...</p> <ul style="list-style-type: none">- name and apply properties of special types of quadrilaterals- name various 3D shapes and identify faces, vertices and edges- construct diagrams accurately using compasses, a protractor and a straight edge- construct line and angle bisectors - draw loci of points moving according to a rule		RAG	Own notes:
<p>Facts:</p> <ul style="list-style-type: none">- For properties of special quadrilaterals, read page 349- Equal sides are shown using small lines; parallel sides are shown using arrows- Link between vertices, faces, edges is $Edges + 2 = Vertices + Faces$- Constructions will involve using a compass in all likelihood- Think carefully when drawing loci; does it look right?	<p>Key Words:</p> <p>Quadrilateral, rectangle, square, kite, parallelogram, rhombus, trapezium, edge, face, vertex, angle, compasses, construct, side, angle bisector, bisect, line bisector, perpendicular bisector, loci, locus,</p>		

Weeks to go: 3	Topic: Two Way Tables and Time
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<p>Can you...</p> <ul style="list-style-type: none">- Read a two way table and use them to do probability- Read off a two way table involving distances between places on a map- Read information from a travel graph- Find average speeds from a travel graph		RAG	Own notes:
<p>Facts: Speed = distance ÷ time</p>	<p>Key Words: Average, speed, distance-time, travel graph, two way table, probability</p>		

<p>Weeks to go:</p> <p>2</p>	<p>Topic:</p> <p>Calculator and Estimating</p>
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<p>Can you...</p> <ul style="list-style-type: none">-Round off a number to significant figures-Approximate the result of a calculation-Round of an answer to a suitable number-Make sensible estimates using measurements of length and weight-Use a calculator to work out...<ul style="list-style-type: none">-Negative numbers-Powers of numbers and square roots-Standard form		RAG	Own notes:
<p>Facts: When finding an estimate of a calculation always round the numbers off to 1 significant figure</p>	<p>Key Words: Estimate, approximate, round, significant figure, decimal place, negative number, square root, power, standard form</p>		

<p>Weeks to go:</p> <p>1</p>	<p>Topic:</p> <p>Negative Numbers</p>
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<p>Can you...</p> <ul style="list-style-type: none">-Use negative numbers in everyday situations (eg Temperature changes)-Add and subtract using positive and negative numbers-Multiply and divide negative numbers		RAG	Own notes:
<p>Facts:</p> <p>Multiplying two negative numbers gives a positive answer. The same is true with division.eg</p> <p>$-2 \times -5 = 10$</p> <p>$-12 \div -6 = 2$</p> <p>Adding a negative number is the same as taking it away, eg</p> <p>$5 + -3 = 5 - 3 = 2$</p>	<p>Key Words:</p> <p>Negative, Positive, Temperature, number line, greater than , less than, difference</p>		

