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| What are the laws of indices? Write an algebraic example for each one.  **10 POINTS** | What is the difference between a factor and a multiple? Give an example of when you use both of these in A level maths.  **10 POINTS** | Write 5 keys terms and their definition for pure maths.  **10 POINTS** | Write an end of topic test for someone in your class on your most recent topic.  **10 POINTS** | Write a question where the answer is  **10 POINTS** | Prove that the product of two odd numbers is even.  **10 POINTS** | Demonstrate Pythagoras Theorem using physical objects.  **10 POINTS** | Multiply out  (2x+3)(x-4)(3x+1)  **10 POINTS** | Write a maths dictionary with 20 words from your A level course so far.  **10 POINTS** | Explain how to convert between centigrade and Fahrenheit.  **10 POINTS** |
| Write 5 things you would like to do differently in Year 13.  **10 POINTS** | Design a  lesson with all the materials to deliver on differentiation.  **10 POINTS** | How long would it take for you to walk to the moon?  **10 POINTS** | Choose any topic. Make a set of cards of key words and a second set of definitions. Mix them up and find the matching pairs**.**  **10 POINTS** | Write three "always, sometimes never" sentences for A level maths.  **10 POINTS** | How many grains of rice would you need to fill your house?  **10 POINTS** | Write a list of 5 common mistakes you might find In an exam paper.  **10 POINTS** | Design a revision poster on 3 topics you have done so far.  **10 POINTS** | Why do we complete the square? What does it tell us? What happens when a  **10 POINTS** | What are the different types of average? Give examples of where one Is more useful than the others.  **10 POINTS** |
| Write a question with a mark scheme in which you have to explain your answer.  **10 POINTS** | How many footballs would you need to go around the equator of the earth.  **10 POINTS**  **10 POINTS** | Condense a topic onto one revision card.  **10 POINTS** | Choose one piece of marked work in your book and re-do it, responding to feedback and making improvements where necessary.  **10 POINTS** | How do you expand 3 brackets? Write an explanation of how to do this.  **10 POINTS** | What advice would you give Year 11 about to start A Levels  **10 POINTS** | Write a revision card to explain how negative and fractional powers work.  **10 POINTS** | Make Cornell notes on ‘Forces’.  **10 POINTS** | Complete a 'Thinking Hard Revisit' mat on Inequalities**.**  **10 POINTS** | Write a list of 5 definitions of words about probability.  **10 POINTS** |
| How many seconds have you been alive?  **10 POINTS** | Pick a profession or career and try and list as many ways maths might be used In that job.  **10 POINTS** | How could you calculate the volume of your brain?  **10 POINTS** | What are the key points to remember when drawing boxplots/using them to compare distributions? Write a revision card.  **10 POINTS** | Using up to four 4s and any of the 4 operations, how many numbers can you make?  **10 POINTS** | How many ways can you solve a quadratic? List them with clear explanations of each.  **10 POINTS** | Watch a TED-Ed talk and complete the follow up tasks  **10 POINTS** | Explain the difference between significant figures and decimal places.  **10 POINTS** | Give an example to show when "two minus make a plus" Is false.  **10 POINTS** | Find out where a Venn diagram gets its name from.  **10 POINTS** |
| The average person uses 27 sheets of toilet paper a day. A toilet roll has 100 sheets. How many toilet rolls does a family of 4 need In a week?  **10 POINTS** | How many rice krispies In a box? How could you estimate this without counting them?  **10 POINTS** | Investigate the London Eye. How may rotations does It make? How far does It travel each day?  **10 POINTS** | How long would It take for you to walk around the UK?  **10 POINTS** | Explain what a negative number Is.  **10 POINTS** | How do you factorise a quadratic where a  Write a step by step guide.  **10 POINTS** | What is a surd? Convince me that they are useful!  **10 POINTS** | Write a revision tool for graph transformations. Use diagrams. An online graph drawing tool may be useful!  **10 POINTS** | What are the different ways to sample? What are the pros and cons of each method?  **10 POINTS** | What is the definition of an outlier? (using quartiles)  **10 POINTS** |
| What are the exact values for trig that you need to know? Write a revision card for these.  **10 POINTS** | Make Cornell notes on ‘Histograms.  **10 POINTS** | Draw diagrams of Venn diagrams to show the union, intersection and complement.  **10 POINTS** | Prove that sin2 Ɵ+ cos2 Ɵ= 1  **10 POINTS** | Draw diagrams for some of the most common forces you have encountered so far, e.g. friction, gravity etc.  **10 POINTS** | Write down the binomial expansion formula from memory.  **10 POINTS** | What is the difference between a scalar and a vector? Write a revision card to remind you.  **10 POINTS** | How do you know whether to use the Sine Rule, Cosine rule or trig ratios? Write a flow chart to help you decide when faced with a problem.  **10 POINTS** | Write down the 5 kinematics formulae and define what all the variable are and an example of units for each.  **10 POINTS** | Write a question that would require a Venn diagram with 3 sections to answer it.  **10 POINTS** |
| What is Newtons first law of motion?  **10 POINTS** | Research – where are trig graphs used/seen in real life?  **10 POINTS** | Prove from first principals that the derivative of x5 is 5x4  **10 POINTS** | How do you know how many solutions a quadratic has?  **10 POINTS** | How do you know if a function is increasing or decreasing over a given interval? Can you think of a way to remember this?  **10 POINTS** | Define the domain and range of a function. How could you explain this to a Year 7 student?  **10 POINTS** | Think of a situation where a quadratic could be used to model the outcome.  **10 POINTS** | Draw a mind map for Vectors showing how any rules can be linked. Include diagrams.  **10 POINTS** | Make Cornell notes on ‘Integration’.  **10 POINTS** | Can you think of a real-life example that could be modelled by an exponential function? Research this.  **10 POINTS** |
| Draw a flow diagram to show how to rationalise a surd.  **10 POINTS** | Create a flow diagram to switch between radians and degrees.  **10 POINTS** | Describe 5 ways to effectively revise.  **10 POINTS** | Look for data in a newspaper or TV report, explain why it might be misleading.  **10 POINTS** | Find a button on your calculator you don’t know how to use and see If you can find what it is for.  **10 POINTS** | Write a tree diagram question that uses conditional probability.  **10 POINTS**  **10 POINTS** | Write 10 quick questions to remind someone of some GCSE skills that you need in Y12.  **10 POINTS** | Research – how did ‘completing the square’ get its name?  **10 POINTS** | Find 5 exam style questions and rank them in order of difficulty then decide which order to answer them in.  **10 POINTS** | What Is Newton's second law of motion?  **10 POINTS** |
| Draw a mind map to show the different types of data.  **10 POINTS** | Write from memory the trig identities you have learnt so far.  **10 POINTS** | There are lots of statistics in the news at the minute. Find 3 ways in which they are misleading.  **10 POINTS** | Make Cornell notes on ‘Hypothesis testing’.  **10 POINTS** | What is Newton’s third law?  **10 POINTS** | What are the laws of logarithms?  **10 POINTS** | Research - what are parametric equations? Send an email to your teacher to explain what they are.  **10 POINTS** | Write detailed instructions of how to find the equation of the normal to a curve at a point.  **10 POINTS** | Explore the equation or a circle using Desmos.  **10 POINTS** | Make Cornell notes on ‘Natural Logarithms’.  **10 POINTS** |
| Explore circle theorems using Geogebra.  **10 POINTS** | Where did the Fibonacci sequence originate and where can examples of it be seen?  **10 POINTS** | Write a guide for simplifying algebraic fractions. Include examples and common misconceptions.  **10 POINTS** | Divide x4 +3x3 -2x +7 by (x+4). What Is the remainder?  **10 POINTS** | Prove that n2 - n Is always even.  **10 POINTS** | Make a poster which shows where the binomial expansion comes from and how it can be used.  **10 POINTS** | A sheet of toilet paper is 10cm x 15cm. How many sheets would it take to cover Big Ben?  **10 POINTS** | What’s the same, what’s different?  What’s new at A level about scatter graphs?  **10 POINTS** | Research - 3 - D vectors. If add an extra dimension, does anything change?  **10 POINTS** | What Is the factor? Show how you can use this to factorise a cubic function.  **10 POINTS** |