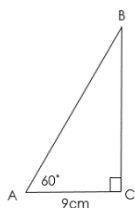
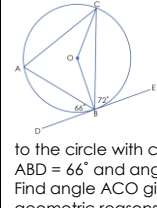
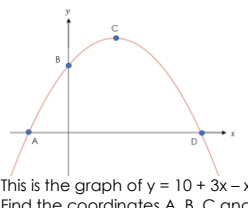
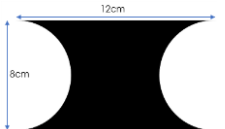

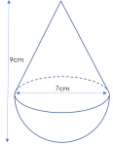
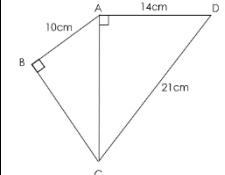
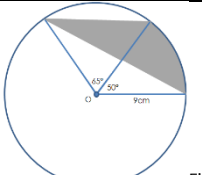


A BIT OF MATHS EACH DAY – HIGHER TIER – NON-CALCULATOR TILL 23RD CALCULATOR FROM 25TH

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY												
<p align="center">Lets Get Ready</p>	<p align="center">1st May</p>  <p>Find the length of side AB</p>	<p align="center">2nd May</p> <p>Show that $(3x - 2)(2x + 3)(x - 5)$ can be written in the form $ax^3 + bx^2 + cx + d$ Where a, b, c and d are integers to be found.</p>	<p align="center">3rd May</p>  <p>DE is a tangent to the circle with centre O. Angle ABD = 66° and angle CBE = 72°. Find angle ACO giving full geometric reasons</p>	<p align="center">4th May</p> <p>Make m the subject of the formula</p> $r = \frac{4m - 5}{9 - 3m}$	<p align="center">5th May</p> <p>Find the answer to $(5\frac{3}{5} - 2\frac{1}{6}) \div 1\frac{2}{5}$</p>	<p align="center">6th May</p>  <p>This is the graph of $y = 10 + 3x - x^2$. Find the coordinates A, B, C and D</p>												
	<p align="center">7th May</p>  <p>The diagram shows a rectangle with two semi-circles removed from the sides. Giving your answers in terms of π, (a) Find the perimeter of the shape (b) Find the area of the shape</p>	<p align="center">8th May</p> <p>Write the decimal 2.1405 as an improper fraction in its simplest form.</p>	<p align="center">9th May</p> <p>(a) $f(x) = 4x - 5$. Find $f(5)$ (b) $g(x) = 3x^2 - 2$. Find $fg(-4)$ (c) Solve the equation $f^{-1}(x) = 7x + 3$</p>	<p align="center">10th May</p> <p>The ratio of a : b is 5 : 9 The ratio of b : c is 4 : 11. Write the ratio of a : b : c where a, b and c are integers and a : b : c is a ratio in its simplest form.</p>	<p align="center">11th May</p> <p>On the graph of $y = f(x)$ point A has coordinate (4, -3). What would the coordinate of A be under the following transformations (a) $f(x + 3)$ (b) $f(x) + 8$ (c) $f(2x)$ (d) $3 - 4f(x)$</p>	<p align="center">12th May</p> <p>A is indirectly proportional to the square of B. When A = 48, B = $\frac{1}{4}$. Find B when A = 75</p>	<p align="center">13th May</p> <p>If $(5a + 2b) = 4(\frac{3}{5})$ find the values of a and b</p>											
<p align="center">14th May</p> <p>(a) Solve the inequality $7x + 6 < 48$ (b) Solve the inequality $3x^2 - 16x - 35 \leq 0$ (c) Write down the integer values which satisfy the solution to (a) and (b)</p>	<p align="center">15th May</p> <p>A model of a statue is made which is mathematically similar to the statue. The volume of material needed to make the statue is 125m³. The model requires 27m³ of material. The model needs 12m² of paint to cover it. How much will the statue need?</p>	<p align="center">16th May</p> <p>(a) Write 260 as a product of prime factors Hence, or otherwise (b) Find the highest common factor of 260 and 200 (c) Find the lowest common multiple of 260 and 300</p>	<p align="center">17th May</p>  <p>The diagram shows a circle inside a square – the sides of the square are tangents to the circle. The square has an area of 144cm². Work out the shaded area in terms of π.</p>	<p align="center">18th May</p> <p>(i) Write down the exact value of (a) 3^{-3} (b) $(\frac{25}{16})^{-3/2}$ (ii) Solve the equation $9^{x+1} \times 27^{2x-1} = 3^{5x+4}$</p>	<p align="center">19th May</p> <p>The curve C with equation $y = 3x^2 - 15x - 15$ intersects with the line L with equation $y + 4x = 5$ At points A and B. Find the coordinates of A and B.</p>	<p align="center">20th May</p> <p>The population of Hillsborough is declining at a rate of 10% each year. Currently the population of Hillsborough is 27,000. (a) What was the population last year? (b) What will the population be next year if this decline continues?</p>												
<p align="center">21st May</p> <p>Solve the pair of simultaneous equations $9x + 5y = 26$ $5x - 7y = 34$</p>	<p align="center">22nd May</p> <p>A cuboid has its length increased by 20%, its width decreased by 30% and its height increased by 10%. What is the overall effect on the volume?</p>	<p align="center">23rd May</p> <p>(a) Write $6\sqrt{54} - 5\sqrt{24}$ in the form $a\sqrt{b}$ where a and b are integers. (b) Expand and simplify fully $(4 - 3\sqrt{7})^2$ (c) Rationalise and simplify fully $\frac{3 + 5\sqrt{2}}{4\sqrt{6}}$</p>	<p align="center">24th May</p> <p align="center">TODAY IS PAPER 1 GOOD LUCK! PAPER 2 7TH JUNE PAPER 3 12TH JUNE BOTH CALCULATOR EXAMS</p>	<p align="center">25th May</p>  <p>The diagram shows a child's toy made of a hemisphere and a cone. The density of the material used to make the toy is 1.1g/cm³. What is the mass of the toy?</p>	<p align="center">26th May</p> <p>A graph is drawn of the function $y = a \times b^x$ Where a and b are constants. The graph passes through the points with coordinates (3, 64) and (6, 512). Find the values of a and b.</p>	<p align="center">27th May</p> <p>Joan invested £5000 in a bank account three years ago. The bank pays x% compound interest per year. She currently has £5431.87 in her account. She has not withdrawn or deposited any more money. Find the value of x to 1 decimal place.</p>												
<p align="center">28th May</p> <p>(a) Sketch the graph of $y = \sin 2x$ between $x = 0$ and $x = 360^\circ$. (b) Solve the equation $\cos x = -0.44$ giving all possible answers between $x = 0$ and $x = 360^\circ$</p>	<p align="center">29th May</p> <p>The table shows the times 106 shoppers spent in a supermarket.</p> <table border="1" data-bbox="380 1228 672 1356"> <thead> <tr> <th>Time (t minutes)</th> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td>$0 < t \leq 10$</td> <td>20</td> </tr> <tr> <td>$10 < t \leq 20$</td> <td>17</td> </tr> <tr> <td>$20 < t \leq 30$</td> <td>12</td> </tr> <tr> <td>$30 < t \leq 40$</td> <td>32</td> </tr> <tr> <td>$40 < t \leq 50$</td> <td>25</td> </tr> </tbody> </table> <p>Find the group the median lies in and estimate the mean time.</p>	Time (t minutes)	Frequency	$0 < t \leq 10$	20	$10 < t \leq 20$	17	$20 < t \leq 30$	12	$30 < t \leq 40$	32	$40 < t \leq 50$	25	<p align="center">30th May</p> <p>In the formula $v^2 = u^2 + 2as$ $v = 9.4$, $a = -1.12$ and $s = 23.4$ Find u</p>	<p align="center">31st May</p>  <p>Find the size of angle BAC</p>	<p align="center">1st June</p> <p>A year 11 class has done a mathematics test. The following information has been found: Highest mark was 81. Half the class got less than 49 marks. 25% of the class got more than 69 marks. 75% of the class got more than 35 marks. The range of marks was 70. Draw a box and whisker diagram to illustrate the information.</p>	<p align="center">2nd June</p> <p>$f(x) = 2x^4 - 3x^2 + 5x - 2$ (a) Show there is a solution to $f(x) = 0$ between -1 and -2. (b) Show that $f(x) = 0$ can be rearranged to give $x = \sqrt{\frac{3x^2 - 5x + 2}{2x}}$ (c) Using the iterative formula $x_{n+1} = \sqrt{\frac{3x_n^2 - 5x_n + 2}{2x_n}}$ And $x_0 = -1.5$, find x_4 to 4 d.p.</p>	<p align="center">3rd June</p>  <p>Find the area and perimeter of the shaded region.</p>
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