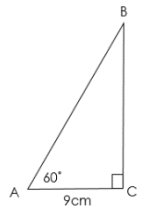
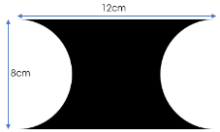
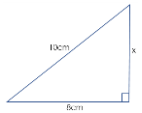
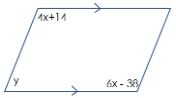
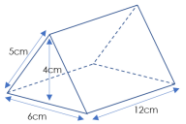
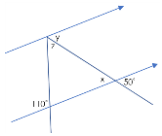
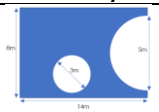
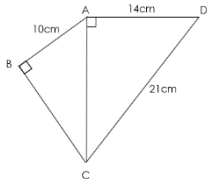
A BIT OF MATHS EACH DAY – FOUNDATION TIER (PLUS) – NON-CALCULATOR TILL 23RD CALCULATOR FROM 25TH

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
	1st May	2nd May	3rd May	4th May	5th May	6th May
Lets Get Ready	Find the length of side AB 	(a) $\frac{5}{8}$ of a number is 75. What is the number? (b) 16% of a number is 28. What is the number?	A café has a choice of two main dishes, fish and chips or cheese pie. It has a choice of three deserts – apple pie, chocolate brownie or ice cream. People choose a main course and a desert as part of a deal the café offers. Write down all the possible combinations of dishes that could be chosen.	Draw the graph of $y - 2x = 5$ between x = -5 and x = 2	Find the answer to $\left(5\frac{3}{5} - 2\frac{1}{6}\right) \div 1\frac{2}{5}$	A survey of students in a Y11 class done to find the favourite football team. 9 said Sheffield Wednesday 4 said Manchester United 5 said Liverpool 13 said Sheffield United 5 said they didn't like any team. (a) Draw a pie-chart to illustrate the information. (b) A student is picked at random. What is the probability they support Liverpool?
7th May	8th May	9th May	10th May	11th May	12th May	13th May
 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	(a) Expand and fully simplify $(x + 5)(x - 2)$ (b) Factorise fully $x^2 + 9x - 36$ (c) Using your answer to part (b) solve $x^2 + 9x - 36 = 0$	(a) Using a ruler and compasses, construct accurately the triangle ABC where AB = 8cm, AC = 7cm and BC = 10cm. (b) Using ruler and compasses, bisect angle BAC.	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.	(a) Find the nth term of the sequence 9, 16, 23, 30, 37,… (b) Bill says that 261 is in the sequence. Is he right? Explain your answer.	 (a) Find the size of length x. (b) Find the perimeter and area of the triangle.	If $\begin{pmatrix}5a + 2b \\ 2a - 3b\end{pmatrix} = 4\begin{pmatrix}3 \\ 5\end{pmatrix}$ find the values of a and b
14th May	15th May	16th May	17th May	18th May	19th May	20th May
 The diagram shows a parallelogram. Find the value of y.	(a) Find 0.48 x 9.8 (b) Use your answer to write down what £9.80 would be after a 52% reduction.	(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	Solve the following equations (a) 5x = 60 (b) 8x – 3 = 29 (c) 5x + 2 = 9x – 11	 The diagram shows an isosceles triangular prism. Find the volume and surface area of the prism.	Estimate the answer to $\frac{891 \times 6.33}{0.481}$ Showing clearly how you came by your estimate.	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?
21st May	22nd May	23rd May	24th May	25th May	26th May	27th May
Solve the pair of simultaneous equations $9x + 5y = 26$ $5x - 7y = 34$	 Find the size of angles x, y and z giving correct geometrical reasons each time. (Diagram not drawn accurately)	Evaluate: (a) 8 + 2 x 3 + 5 (b) 6^{-2} (c) $(3 \times 10^3) \times (1.5 \times 10^5)$ (give your final answer in standard form)	**TODAY IS PAPER 1** **GOOD LUCK!** **PAPER 2 7TH JUNE** **PAPER 3 12TH JUNE**	(a) 8km = 5 miles. The ratio of km to miles can be written in the form 1 : n. What would he value of n be? (b) A map uses the scale 1 : 200,000. A distance on a map measures 8.1cm. How far is this in real life? Give your answer in miles.	A bag has 5 red balls, 3 white balls and 4 black balls. Susan picks a ball at random, notes the colour and puts it back in the bag. She then picks another ball. What is the probability that she picks two balls that are the same colour?	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.
28th May	29th May	30th May	31st May	1st June	2nd June	3rd June
 The diagram shows the plan of a garden which has a semi-circular section of decking and a circular pond. The shaded area is to grassed. Boxes of grass seed cover 2.5m² and cost £5.99 each. How much will it cost to grass the garden?	The table shows the times 106 shoppers spent in a supermarket. **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 Find the group the median lies in and estimate the mean time.	(a) Increase £27.50 by 18% (b) Ian bought a car for £12,640. Two years later he sold it for £9,950. Work out the percentage loss he made.	 Find the size of angle BAC	Mr and Mrs Smith are taking their three children on a train journey. Adult return tickets are £4.50 more expensive than child tickets. To total cost of all the return tickets is £72.50. What is the cost of each type of ticket?	Paul is going on a trip to Europe. He takes with him £800. He is staying for 3 days and his travel and accommodation has already been paid for. He spends €80 each day for food and drink. He spends another €250 at the airport on duty free. If the exchange rate is £1 = €1.21, how many pounds does he receive when he converts his money back again?	A recipe for Shortbread biscuits makes 20 biscuits: 125g butter 55g caster sugar 180g plain flour. (a) How much of each ingredient is required for 12 biscuits? (b) I have 240g of plain flour and loads of butter and caster sugar. What is the largest number of shortbread biscuits I could make?

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