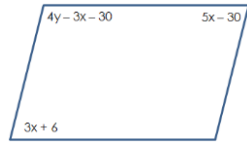
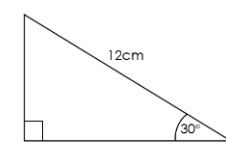
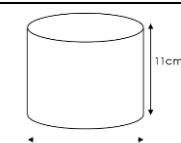
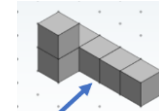
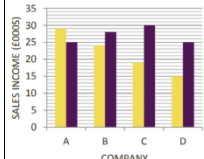
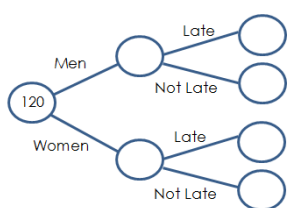
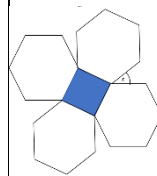


A BIT OF MATHS EACH DAY – FOUNDATION TIER – MARCH 2023 – NON CALCULATOR

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY																							
		1 st	2 nd	3 rd	4 th	5 th																							
<h1 style="color: red; margin: 0;">March</h1> <h2 style="color: red; margin: 0;">Non-Calculator</h2>		<p>Work out</p> $2\frac{3}{4} \times 1\frac{2}{5}$	<p>Donald needs to hire a car for 15 days. He is considering 3 places to hire his car from. Each uses a formula to find the Cost (£C) using the number of days (D)</p> <p>PETE'S: $C = 24D + 50$</p> <p>QUEENIES: $C = 30D$</p> <p>ROGERS: $C = 21D + 100$.</p> <p>Where should he hire his car from? You must explain your working.</p>	 <p>The shape above is a parallelogram. Find the value of y.</p>	<p>(a) Write 360 as a product of prime factors.</p> <p>(b) Write 420 as a product of prime factors.</p> <p>(c) Use your answers to (a) and (b) to find the Highest Common Factor (HCF) of 360 and 420.</p> <p>(d) Use your answers to (a) and (b) to find the Lowest Common Multiple (LCM) of 360 and 420.</p>																								
6 th	7 th	8 th	9 th	10 th	11 th	12 th																							
<p>A wall is 8m long and 1.8m high. Paul is tiling it with tiles which measure 20cm by 18cm. The tiles are to be red, white and black. $\frac{5}{8}$ are to be red. White and black are to be in the ratio 7:8. How many of each colour will he require?</p>	 <p>Find the value of x. Give your answer in exact form.</p>	<p>Put these numbers in order of size, from smallest to largest...</p> <p>0.031, 2.98×10^{-2}, 0.4×10^{-1}, 937×10^{-5}</p>	<p>(a) Round 89531 to the nearest thousand.</p> <p>(b) Estimate the value of $\frac{391.1 \times 9.7^2}{0.781}$</p>	<p>A cube is made of concrete. It has length of side 40cm. The density of concrete is 2.5g/cm^3. What is the mass of the cube? Give your answer in kilograms.</p>	<p>(a) Complete the table of values for the function $y = x^2 - 2x - 8$.</p> <table border="1" style="margin: 0 auto;"> <tr> <td>x</td> <td>-4</td> <td>-3</td> <td>-2</td> <td>-1</td> <td>0</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> </tr> <tr> <td>y</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p>(b) On axes similar to the ones on the left, plot the graph of $y = x^2 - 2x - 8$.</p> <p>(c) Use your graph to solve the equation $x^2 - 2x - 8 = 0$</p> <p>(d) Write down the coordinate of the turning point of $y = x^2 - 2x - 8$.</p>		x	-4	-3	-2	-1	0	1	2	3	4	5	y											
x	-4	-3	-2	-1	0	1	2	3	4	5																			
y																													
13 th	14 th	15 th	16 th	17 th	18 th	19 th																							
<p>(a) Solve the equation $x^2 + 2x - 80 = 0$</p> <p>(b) Solve the inequality $3 - 5x \leq 9 - 2x$</p>	 <p>Find the volume of this cylinder. Give your answer in terms of π.</p>	 <p>Draw a (a) front elevation (b) plan elevation</p>	<p>A market stall sells cakes, bread rolls and loaves of bread in the ratio 7 : 13 : 8. They sell 25 more rolls than loaves. How many cakes do they sell?</p>	<p>This is a pictogram to show the books sold by an author over 4 months.</p> <table border="1" style="margin: 0 auto;"> <tr> <td>January</td> <td></td> </tr> <tr> <td>February</td> <td></td> </tr> <tr> <td>March</td> <td></td> </tr> <tr> <td>April</td> <td></td> </tr> </table> <p>(a) How many more were sold in March compared to January? (b) In total the author sold 92 books over this period. Complete the pictogram.</p>	January		February		March		April		<p>The bar chart shows the sales of 4 different companies directly and online.</p>  <p>(a) Which company sold more directly than online? (b) How much more did company B sell directly than company B? (b) Which company has the greatest total sales?</p>																
January																													
February																													
March																													
April																													
20 th	21 st	22 nd	23 rd	24 th	25 th	26 th																							
<p>Given that $\frac{a}{b} = \frac{4}{9}$ & $\frac{a}{c} = \frac{5}{12}$</p> <p>Find a : b : c giving your answer in its simplest form.</p>	<p>Ian is travelling from Sheffield to Edinburgh. His train left Sheffield train station at 0821 and arrived in Edinburgh at 1321. The train travelled at an average speed of 50 miles per hour.</p> <p>Annette is travelling the other way but unfortunately her train is diverted via Manchester. It had to travel an extra 70 miles. She left Edinburgh at 1042 and arrived in Sheffield at 1722. What was the difference in their average speeds?</p>	<table border="1" style="margin: 0 auto;"> <tr> <td>15</td> <td>6</td> <td>6</td> <td>7</td> <td>9</td> </tr> <tr> <td>16</td> <td>1</td> <td>3</td> <td>4</td> <td>5</td> <td>8</td> </tr> <tr> <td>17</td> <td>0</td> <td>0</td> <td>2</td> <td>3</td> <td>7</td> </tr> <tr> <td>18</td> <td>0</td> <td>4</td> <td>5</td> <td></td> <td></td> </tr> </table> <p>The stem and leaf diagram shows the weights, in grams, of some oranges. (a) How many weighed more than 170g? (b) Find the range.</p>	15	6	6	7	9	16	1	3	4	5	8	17	0	0	2	3	7	18	0	4	5			<p>7, 11, 15, 19, 23, ...</p> <p>(a) Write down the next two terms in the sequence.</p> <p>(b) Write down the nth term for the sequence.</p> <p>(c) What will the 90th term be?</p>	<p>Work out</p> $4\frac{2}{3} - 2\frac{5}{8}$	<p>120 people work at a factory. 84 are men. On a particular day the weather is bad and 32 of the men are late. 56 people were late altogether.</p>  <p>(a) Complete the frequency tree. (b) What is the probability a woman was not late? (c) What percentage were late?</p>	
15	6	6	7	9																									
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17	0	0	2	3	7																								
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27 th	28 th	29 th	30 th	31 st																									
<p>The ratio of men to women in a company is 9:11. Of the men, 10% are left handed. 95% of the women are right handed. What percentage of the company are left handed?</p>	<p>7 books cost £10.15. How much will 11 cost?</p>	 <p>The diagram shows a square surrounded by regular hexagons. Find the size of angle x.</p>	<p>Work out the answer to...</p> <p>(a) $(5.2 \times 10^{-4}) \times (4 \times 10^{-3})$</p> <p>(b) $\frac{1.2 \times 10^2}{4.8 \times 10^{-5}}$</p>	<p>At the local supermarket I buy 3kg of potatoes, 2 kg of carrots and some oranges. Potatoes cost £2.50 per kilo, carrots cost 80p per kilo and oranges £3.20 per kilo.</p> <p>In total I spent £13.90. How many kilo's of oranges did I buy?</p>	<p>The best way to learn mathematics is to DO mathematics.</p> <p>If you do something regularly on a daily basis you will make a bigger difference than leaving it till just before your exams.</p> <p>If you need help there are some fantastic videos at www.corbettmaths.com</p> <p>Or you can always tweet me @mrchadburn</p>																								