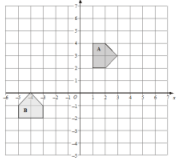
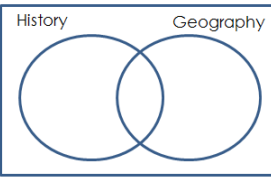
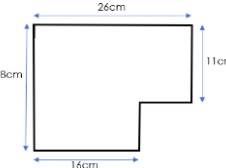
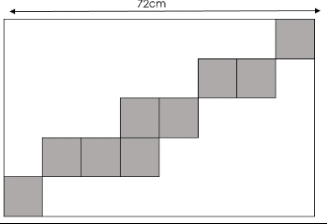
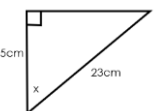
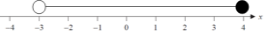
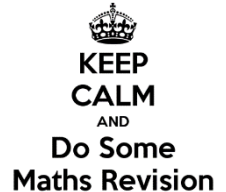


## A BIT OF MATHS EACH DAY – FOUNDATION TIER – FEBRUARY 2023

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY												
	1 <sup>st</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>												
<h1 style="color: red; font-size: 2em;">February</h1>		 <p>Describe fully the transformation which maps A onto B.</p>	<p>On a diagram of a circle show what the following are: Radius, Diameter, Chord Tangent</p>	<p>3, 10, 17, 24, 31, ...</p> <p>(a) Find the nth term of this sequence. Ben says that 185 is in this sequence. (b) Is Ben correct? Justify your answer.</p>	 <p>There are 80 students in a year group. 38 study History, 29 study Geography and 12 study both. (a) Complete the Venn diagram. (b) What is the probability, a student chosen at random studies neither History or Geography?</p>													
6 <sup>th</sup>	7 <sup>th</sup>	8 <sup>th</sup>	9 <sup>th</sup>	10 <sup>th</sup>	11 <sup>th</sup>	12 <sup>th</sup>												
<p>Solve the following equations</p> <p>(a) <math>12 = 24x</math></p> <p>(b) <math>5x - 6 = 7x - 20</math></p>	<p>Machine A and machine B both make car parts. Machine A makes 7 parts every 12 minutes. Machine B makes 11 parts every 20 minutes. On Monday machine A makes parts for 14 hours and machine B makes parts for 11 hours. Work out the total number of parts made by the two machines on Monday.</p>	 <p>Find the area of this shape.</p>	<p>Terri has put £620 in a bank account which pays 1.8% compound interest per annum. How much will she have in the bank account if she leaves it there for 2 years?</p>	<p>Ian has 300 counters in a bag. Paul takes 42 of them. Derek takes 65 of them. Anne takes 33 of them. What fraction does Ian have left? Give your answer in its simplest form.</p>	<p>The diagram shows 9 identical squares inside a rectangle. Find the area and perimeter of the rectangle</p> 													
13 <sup>th</sup>	14 <sup>th</sup>	15 <sup>th</sup>	16 <sup>th</sup>	17 <sup>th</sup>	18 <sup>th</sup>	19 <sup>th</sup>												
 <p>Find the size of angle x. Give your answer correct to 2 decimal places.</p>	<p>A water butt contains 512.6 litres of water when full. It is 80% full. Daniel is using a small bucket to empty the butt. The bucket holds 525ml of water. How many small buckets can be completely filled by the water in the butt?</p>	<p>Use your calculator to work out the value of</p> $\frac{(7.91 - \sqrt[3]{81}) \times 4.32}{6.23 + 1.491}$ <p>Give your answer correct to 3 significant figures.</p>	<p>A bag contains 2 red, 1 blue, 1 yellow and 1 orange counter. Ann takes 2 counters from the bag. She replaces the 1<sup>st</sup> counter before taking the 2<sup>nd</sup>. (a) Write down all the possible combinations of counters she can take. (b) What is the probability she gets at least 1 red counter?</p>	<p>At a cricket match, 22% of the spectators are under 18. <math>\frac{5}{16}</math> are between 18 and 50. What percentage are over 50?</p>	<p>Paul is looking at buying a suite online. He has found a suit he likes and it is sold in three different countries. In the UK it costs £165. In China it costs 1300 yuan In the US it costs \$195. £1 = \$1.19      1 yuan = 12.6p. Where should he order his suit from? Show how you came by your answer. If Paul lives in the UK why might your answer not be the best answer?</p>													
20 <sup>th</sup>	21 <sup>st</sup>	22 <sup>nd</sup>	23 <sup>rd</sup>	24 <sup>th</sup>	25 <sup>th</sup>	26 <sup>th</sup>												
<p>A road map has a scale of 1 : 250 000. A distance on the map measures 4.3cm. How long is the distance in real life? Give your answer in kilometres.</p>	<p>(a) Write <math>5.2301 \times 10^5</math> as a normal number. (b) Write 0.000401 in standard form. (c) Work out the answer to the calculation <math>(3.2 \times 10^{-3}) \div (6.11 \times 10^{-6})</math> giving your answer in standard form correct to 2 significant figures.</p>	<p>A shop sells shirts. In January they reduce the price of all their £50 shirts by 50%. In February they decide to increase the price of all their shirts by 50%. In March they decide to reduce the price of their shirts by 50% again. What is the cost of a shirt in March?</p>	<p>(a) A circle has a radius of 12cm. What is its area?  (b) A circle has a circumference of 100cm. What is its radius?</p>	 <p>(a) Write down the inequality shown on the number line. (b) Solve the inequality <math>9x + 7 &gt; 5</math> (c) Write down the integer values which satisfy both (a) and (b)</p>	<table border="1" style="margin: auto;"> <thead> <tr> <th>Length of call (t minutes)</th> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td><math>0 &lt; t \leq 10</math></td> <td>20</td> </tr> <tr> <td><math>10 &lt; t \leq 20</math></td> <td>32</td> </tr> <tr> <td><math>20 &lt; t \leq 30</math></td> <td>14</td> </tr> <tr> <td><math>30 &lt; t \leq 40</math></td> <td>9</td> </tr> <tr> <td><math>40 &lt; t \leq 50</math></td> <td>5</td> </tr> </tbody> </table> <p>Della is monitoring the length of calls at a call centre. (a) Which group does the median lie in? (b) Estimate the mean length of each call at the call centre.</p>	Length of call (t minutes)	Frequency	$0 < t \leq 10$	20	$10 < t \leq 20$	32	$20 < t \leq 30$	14	$30 < t \leq 40$	9	$40 < t \leq 50$	5	
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27 <sup>th</sup>	28 <sup>th</sup>			<p>The best way to learn mathematics is to DO mathematics. If you do something regularly on a daily basis you will make a bigger difference than leaving it till just before your exams. If you need help there are some fantastic videos at <a href="http://www.corbettmaths.com">www.corbettmaths.com</a> Or you can always tweet me @mrchadburn</p>														

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