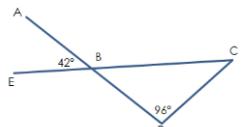
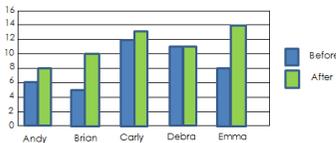
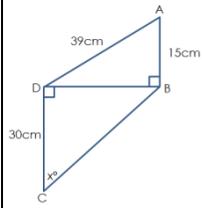
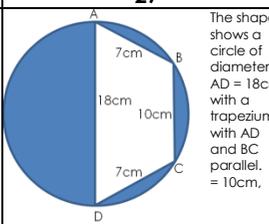
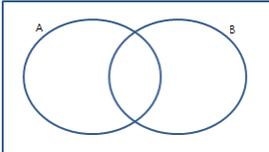


A BIT OF MATHS EACH DAY – FOUNDATION TIER – APRIL 2017 – CALCULATOR

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY											
					1st	2nd											
<h1 style="color: red; font-size: 2em; margin: 0;">April Calculator</h1>		<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 www.corbettmaths.com Or you can always tweet me @mrchadburn This is the final calendar before the GCSE exams. Good luck with your exams!!</p>			<p>The first 7 terms of the Tribonacci Sequence are 1, 1, 1, 3, 5, 9, ... The rule to continue the Tribonacci Sequence is "the next term in the sequence is the sum of the previous 3 terms". (a) Write down the next 3 Tribonacci numbers. (b) The first four terms of a different tribonacci sequence are a, a, b, 2a+b. Show that the 7th term is 10a + 7b (c) The fourth term is 21 and the 7th term is 123. Find the values of a and b.</p>												
3rd	4th	5th	6th	7th	8th	9th											
<p>Annette is travelling to Switzerland. The exchange rate between British Pounds (£) and Swiss Francs (CHF) is £1 = 1.18CHF. She converts £840 into Swiss Francs. When in Switzerland she spends 712CHF. When she returns, the exchange rate is 1CHF = £0.90. What percentage of her original £840 has she got left after converting it back into pounds?</p>	<p>Ian writes down three numbers. Two are factors of 56. One is a multiple of 8. When she adds her numbers together the answer is between 10 and 20. Write down what her 3 numbers could have been.</p>	<p>Rose, Steve and Terry shared some sweets. Steve received 25% more than Rose. Rose and Terry's share was in the ratio 4 : 9. Steve received 20 sweets. How many sweets in total did the three receive?</p>	<p>From this list of numbers... 2, 8, 9, 10, 11, 24, 27, 36, 48 Write down an example of and explain the meaning of (a) a factor of 20 (b) a multiple of 6 (c) a prime number (d) a square number (e) a cube number</p>	<p>(a) Expand and simplify fully $(3x + 7)(2x - 9)$ (b) Factorise fully $24x^3y^2 - 18x^2y$ (c) Solve $x^2 + 3x - 108 = 0$</p>	<div style="display: flex; justify-content: space-around; align-items: center;">  <div style="font-size: 0.8em;"> <p>A supermarket sells corn flakes in three different sizes. Which size is the better value? You must show how you got your answer.</p> </div> </div>												
10th	11th	12th	13th	14th	15th	16th											
 <p>Show that triangle BCD is an isosceles triangle. Give a reason for each stage of your working.</p>	<p>(a) Find 139% of £513 (b) Increase £84 by 8% (c) £90 is increased by 20% and then decreased by 20%. What is the overall percentage change?</p>	<p>(a) Find the nth term for the sequence 7, 11, 15, 19, 23, 27, ... (b) Paul says that 325 is in both the sequence in (a) and the sequence with nth term $8n - 9$. Is Paul correct? Explain your reasoning.</p>	<p>The cost of 3 adult tickets and 5 child tickets for a particular journey is £406. For the same journey 7 adult tickets cost £469. What would the total cost be for 2 adult and 3 child tickets?</p>	<p>(a) Simplify $3x + 9y - 6x - 2y - 3z$ (b) Simplify $4x \times 7x$ (c) Simplify $60y^4 \div 12y$ (d) Expand and simplify fully $4(2x + 1) - 2(x - 3)$</p>	<p>Some pupils took an algebra test before and after a lesson on algebra. Their scores are shown in the graph.</p>  <p>(a) Who made the biggest improvement? (b) What was the difference in the mean mark before and after the lesson?</p>												
17th	18th	19th	20th	21st	22nd	23rd											
<p>(a) Solve $\frac{2x}{5} = 10$ (b) Solve $6(3x - 8) = 20$ (c) Solve the inequality $5x + 1 < 7$</p>	 <p>Find the size of angle x.</p>	<p>Here is a number machine</p>  <p>(a) What is the output when the input is 8? (b) What is the input when the output is 93? (c) Show that there is a value for the input for which the input and output have the same value.</p>	<p>(a) Write $\frac{3}{32}$ as a decimal (b) 0.36 as a fraction in its simplest form. (c) Write $\frac{17}{20}$ as a percentage.</p>	<p>(a) Write 120 as a product of prime factors. (b) Write 136 as a product of prime factors. (c) Use your answers to (a) and (b) to find the Highest common factor (HCF) of 120 and 136. (c) Use your answers to (a) and (b) to find the Lowest Common Multiple (LCM) of 120 and 136.</p>	<p>The hand span (in cm) of 60 men was measured. The results are shown in the table.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Handspan, h, cm</th> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td>$10 \leq h < 14$</td> <td>3</td> </tr> <tr> <td>$14 \leq h < 18$</td> <td>17</td> </tr> <tr> <td>$18 \leq h < 22$</td> <td>19</td> </tr> <tr> <td>$22 \leq h < 26$</td> <td>12</td> </tr> <tr> <td>$26 \leq h < 30$</td> <td>9</td> </tr> </tbody> </table> <p>(a) What group does the median lie in? (b) Find an estimate for the mean hand span.</p>	Handspan, h, cm	Frequency	$10 \leq h < 14$	3	$14 \leq h < 18$	17	$18 \leq h < 22$	19	$22 \leq h < 26$	12	$26 \leq h < 30$	9
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<p>(a) Solve the equation $4(2x - 3) = 5(4 - 5x)$ (b) Make m the subject of $r = \frac{m^2}{n} + p$</p>	<p>Here is a list of numbers... 31, 19, 22, 19, 36, 23, 41, 22, 17, 30 Find (a) The mode (b) The median (c) The mean (d) The range</p>	<p>(a) Change 4cm² into mm² (b) Change 18km/hr into m/s.</p>	 <p>The shape shows a circle of diameter AD = 18cm with a trapezium with AD and BC parallel. BC = 10cm. AB = CD = 7cm. What percentage of the circle is shaded?</p>	<p>There are 6234 people at a music concert. 2107 are men, 2522 are women. $\frac{2}{5}$ of the children at the concert are boys. How many girls are at the concert?</p>	 <p>$E = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15\}$ A = {Factors of 56} B = {Prime numbers} (a) Explain in words what i. $A \cup B$ and ii. $A \cap B$ mean (b) Complete the Venn Diagram (c) Write down the probability of i. $A \cup B$ and ii. $A \cap B$</p>												