

FOCUS 5 TASKS - Set 2

Each of the 36 topics is covered once within the 6 sheets

Sheet 2A

Quadratic and cubic graphs	Q1
Pythagoras	Q2
Sequences - nth term	Q3
Trigonometry - finding an angle	Q4
Alternate and corresponding angles	Q5
Simultaneous equations	Q6

Sheet 2B

Two-way tables	Q1
Circles	Q2
Expand and Simplify	Q3
Enlargements	Q4
Expanding Double Brackets	Q5
Straight Line Graphs	Q6

Sheet 2C

Averages from Grouped Data	Q1
Indices	Q2
Volume	Q3
Pythagoras /Trigonometry	Q4
Rotations	Q5
Probability from a Table	Q6

Sheet 2D

Percentages	Q1
Reflections	Q2
Product of prime factors	Q3
Translations	Q4
Venn Diagrams	Q5
Compound Measures	Q6

Sheet 2E

Equivalence	Q1
Averages from a Table	Q2
Inequalities	Q3
Scatter graphs	Q4
Plans and elevations	Q5
Standard Form	Q6

Sheet 2F

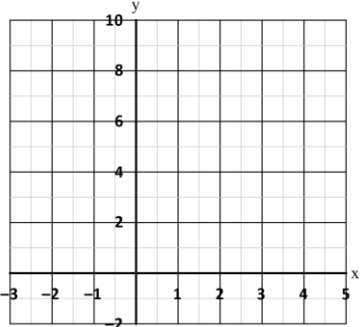
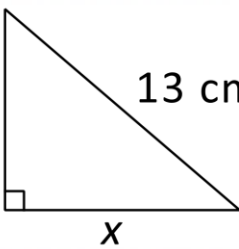
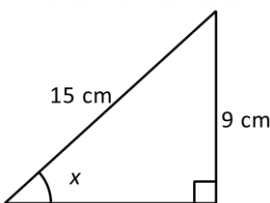
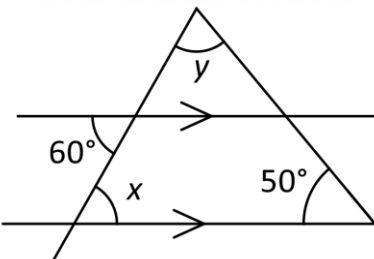
Vectors	Q1
Pythagoras /Trigonometry	Q2
Estimation	Q3
Proportion	Q4
Exchange rates	Q5
Use of a calculator	Q6

FOCUS 5 TASK 2A

NAME _____

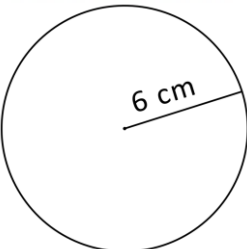
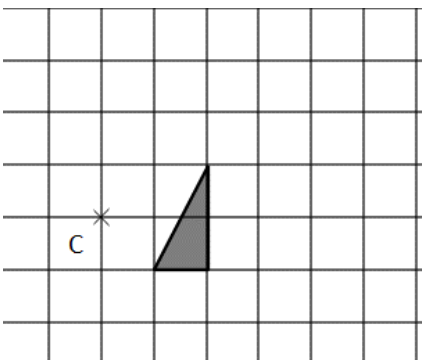
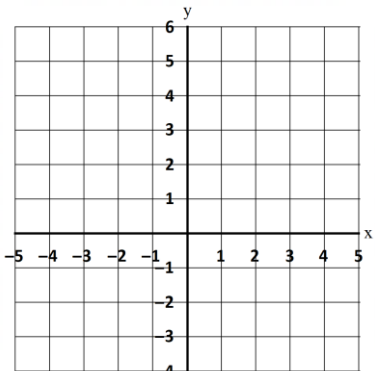
SKILLS CHECK

Work out $107 + 459$	Work out 35×28	Work out $\frac{4}{9} \times \frac{3}{8}$	Divide £252 in the ratio 5 : 2
Work out $697 - 408$	Work out $962 \div 37$	What is 5% of £68?	Solve $5x + 7 = 2x + 19$

<p>QUESTION 1</p> <p>Complete the table of values for $y = 2x^2 - x$ and plot the graph</p> <table border="1"> <tr> <td>x</td> <td>-2</td> <td>-1</td> <td>0</td> <td>1</td> <td>2</td> <td>3</td> </tr> <tr> <td>y</td> <td></td> <td>3</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> 	x	-2	-1	0	1	2	3	y		3					<p>QUESTION 2</p> <p>Calculate x Give your answer correct to 1 d.p.</p> 	<p>QUESTION 3</p> <p>Find the nth term of 6, 9, 12, 15, 18,</p> <p>What is the value of the 50th term?</p>
x	-2	-1	0	1	2	3										
y		3														
<p>QUESTION 4</p> <p>Calculate x Give your answer correct to 1 d.p.</p> 	<p>QUESTION 5</p> <p>Calculate the value of x and y</p> 	<p>QUESTION 6</p> <p>Solve the simultaneous equations $x + 4y = 5$ $2x + 5y = 4$</p>														

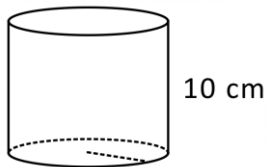
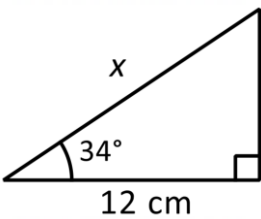
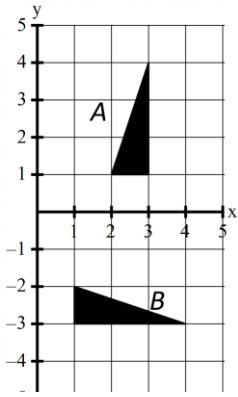
SKILLS CHECK

Work out $687 + 905$	Work out 1.6×45	Work out $\frac{9}{10} \div \frac{3}{4}$	Divide £196 in the ratio 6 : 1
Work out $902 - 478$	Work out $1248 \div 26$	What is 55% of £90?	Solve $\frac{x}{2} - 7 = 3$

<p>QUESTION 1</p> <p>100 students were asked to pick English, Maths or Science. 53 students were Yr 11's. 37 students picked English. 18 Yr 11 students picked Maths. 13 out of the 25 students who picked Science are Yr 11</p> <table border="1" style="float: right;"> <tr> <td>Total</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Sci</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Mat</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Eng</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>Yr11</td> <td>Yr12</td> <td>Total</td> </tr> </table>	Total				Sci				Mat				Eng					Yr11	Yr12	Total	<p>QUESTION 2</p> <p>Calculate the circumference Give your answer correct to 1 d.p.</p> 	<p>QUESTION 3</p> <p>Expand and simplify $3(a + 2b) - 2(a - b)$</p>
Total																						
Sci																						
Mat																						
Eng																						
	Yr11	Yr12	Total																			
<p>QUESTION 4</p> <p>Enlarge the triangle with centre C and scale factor 2</p> 	<p>QUESTION 5</p> <p>Expand and simplify $(x - 3)(x + 4)$</p>	<p>QUESTION 6</p> <p>Complete the table of values for $y = x + 1$ and plot the graph</p> <table border="1" style="margin-bottom: 10px;"> <tr> <td>x</td> <td>-2</td> <td>-1</td> <td>0</td> <td>1</td> <td>2</td> <td>3</td> </tr> <tr> <td>y</td> <td></td> <td>0</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> 	x	-2	-1	0	1	2	3	y		0										
x	-2	-1	0	1	2	3																
y		0																				

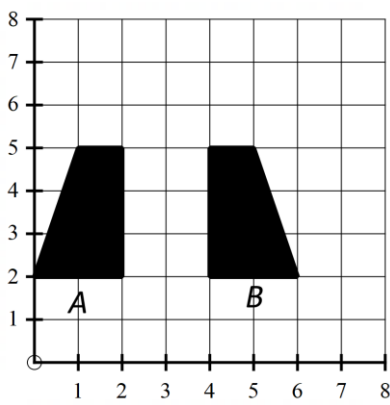
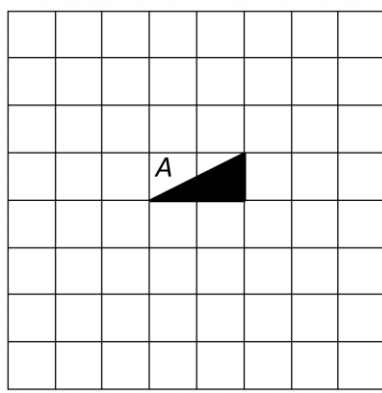
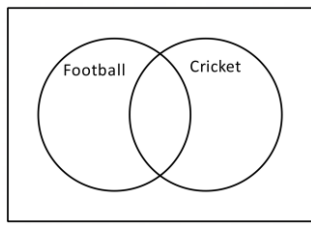
SKILLS CHECK

Work out $259 + 97$	Work out 2.5×3.5	Work out $\frac{9}{10} - \frac{3}{4}$	Divide £234 in the ratio 2 : 7
Work out $892 - 349$	Work out $1376 \div 32$	What is 5% of £56?	Solve $\frac{x-3}{2} - 3 = -1$

<p>QUESTION 1</p> <p>Calculate an estimate of the mean weight.</p> <table border="1"> <tr> <td>Weight (g)</td> <td>f</td> <td></td> <td></td> </tr> <tr> <td>$0 \leq w < 20$</td> <td>2</td> <td></td> <td></td> </tr> <tr> <td>$20 \leq w < 40$</td> <td>3</td> <td></td> <td></td> </tr> <tr> <td>$40 \leq w < 60$</td> <td>7</td> <td></td> <td></td> </tr> <tr> <td>$60 \leq w < 80$</td> <td>10</td> <td></td> <td></td> </tr> <tr> <td>$80 \leq w < 100$</td> <td>18</td> <td></td> <td></td> </tr> </table>	Weight (g)	f			$0 \leq w < 20$	2			$20 \leq w < 40$	3			$40 \leq w < 60$	7			$60 \leq w < 80$	10			$80 \leq w < 100$	18			<p>QUESTION 2</p> <p>Simplify</p> $\frac{4a^3 \times b^3}{2ab^2}$ <p>Simplify $(2x^2y^3)^3$</p>	<p>QUESTION 3</p> <p>Calculate the volume of the cylinder</p>  <p>Radius = 4 cm (Answer correct to 1 d.p.)</p>
Weight (g)	f																									
$0 \leq w < 20$	2																									
$20 \leq w < 40$	3																									
$40 \leq w < 60$	7																									
$60 \leq w < 80$	10																									
$80 \leq w < 100$	18																									
<p>QUESTION 4</p> <p>Calculate x Give your answer correct to 1 d.p.</p> 	<p>QUESTION 5</p> <p>Describe fully the single transformation that maps triangle A onto triangle B</p> 	<p>QUESTION 6</p> <p>The table shows the probability of picking 4 different types of cards</p> <table border="1"> <tr> <td>Card</td> <td>A</td> <td>B</td> <td>C</td> <td>D</td> </tr> <tr> <td>Probability</td> <td>$\frac{5}{12}$</td> <td>$\frac{1}{6}$</td> <td>—</td> <td>$\frac{1}{3}$</td> </tr> </table> <p>Calculate the probability of picking a card C</p> <p>Calculate the probability of not picking a card B</p>	Card	A	B	C	D	Probability	$\frac{5}{12}$	$\frac{1}{6}$	—	$\frac{1}{3}$														
Card	A	B	C	D																						
Probability	$\frac{5}{12}$	$\frac{1}{6}$	—	$\frac{1}{3}$																						

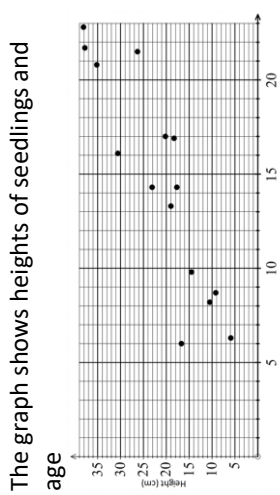
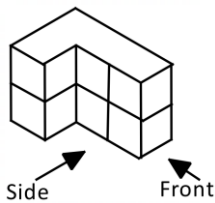
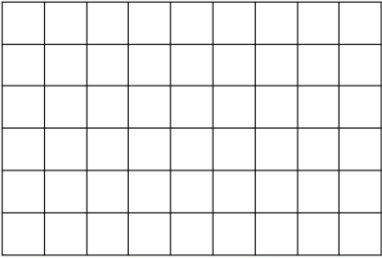
SKILLS CHECK

Work out $854 + 389$	Work out 65×3.2	Work out $\frac{7}{12} \div \frac{3}{4}$	Divide £475 in the ratio 2 : 3
Work out $601 - 379$	Work out $1512 \div 28$	What is 15% of £35?	Solve $4x - 3 = 12 - x$

<p>QUESTION 1</p> <p>Calculate 30% of £520</p> <p>Decrease £180 by 10%</p>	<p>QUESTION 2</p> <p>Describe fully the single transformation that maps shape A onto shape B</p> 	<p>QUESTION 3</p> <p>Express 72 as the product of prime factors</p>
<p>QUESTION 4</p> <p>Translate triangle A by vector $\begin{pmatrix} 2 \\ -1 \end{pmatrix}$. Label the new triangle B</p> 	<p>QUESTION 5</p> <p>60 students were asked about the sport they played</p> <p>9 played no sport</p> <p>34 played football</p> <p>28 played cricket</p> <p>Record the information in the Venn diagram</p>  <p>How many students played both football and cricket?</p>	<p>QUESTION 6</p> <p>A block has a mass of 400g and a volume of 50 cm^3</p> <p>Calculate the density of the block.</p>

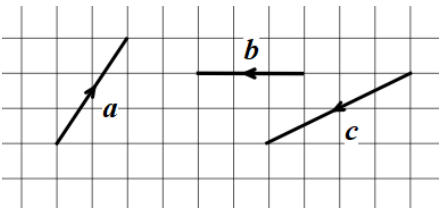
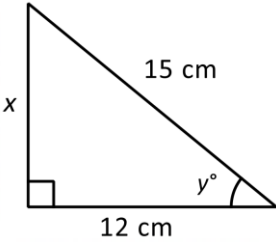
SKILLS CHECK

Work out $98 + 895$	Work out 64×46	Work out $\frac{7}{9} - \frac{1}{4}$	Divide £396 in the ratio 5 : 6
Work out $825 - 487$	Work out $1175 \div 25$	What is 20% of £81?	Solve $\frac{4x}{3} + 5 = 1$

<p>QUESTION 1</p> <p>Express $\frac{17}{25}$ as a percentage</p> <p>There are red and green pins in a bag. $\frac{2}{5}$ of the pins are green. Write down the ratio of red to green pins.</p>	<p>QUESTION 2</p> <p>Calculate the mean</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td>x</td><td>f</td></tr> <tr><td>0</td><td>5</td></tr> <tr><td>1</td><td>9</td></tr> <tr><td>2</td><td>12</td></tr> <tr><td>3</td><td>17</td></tr> <tr><td>4</td><td>7</td></tr> </table> <p>What is the median value?</p>	x	f	0	5	1	9	2	12	3	17	4	7	<p>QUESTION 3</p> <p>Solve the inequality $7x + 3 \geq 3x + 19$</p>
x	f													
0	5													
1	9													
2	12													
3	17													
4	7													
<p>QUESTION 4</p>  <p>The graph shows heights of seedlings and age</p> <p>Describe the correlation shown</p> <p>Estimate the age of a seedling with a height of 18 cm</p>	<p>QUESTION 5</p> <p>Draw the front and side elevations</p>  	<p>QUESTION 6</p> <p>Express in standard form 307000000</p> <p>0.00215</p>												

SKILLS CHECK

Work out $207 + 773$	Work out 1.8×45	Work out $\frac{3}{5} \div \frac{3}{10}$	Divide £495 in the ratio 5 : 6
Work out $802 - 497$	Work out $1764 \div 28$	What is 45% of £64?	Solve $\frac{4x - 7}{5} = 3$

<p>QUESTION 1</p> <p>Write a, b and c as column vectors</p> 	<p>QUESTION 2</p> <p>Calculate x Give your answer to the nearest degree</p> 	<p>QUESTION 3</p> <p>Estimate $\sqrt{9.52^2 - 38.55 + 2.2^2}$</p>
<p>QUESTION 4</p> <p>A recipe for 12 cupcakes uses 150g of sugar. Alex uses 250g of sugar when he makes the recipe. How many cupcakes does he make?</p>	<p>QUESTION 5</p> <p>If the exchange rate is $\pounds 1 = \text{€}1.10$ Work out the missing values</p> <p>a) $\pounds 420 = \text{€} \dots$</p> <p>b) $\text{€}35.20 = \pounds \dots$</p>	<p>QUESTION 6</p> <p>Work out correct to 1 d.p.</p> <p>a) $\sin(30^\circ) + \cos(40^\circ)$</p> <p>b) $\frac{45 - 8.2^2}{4.5 - 1.25}$</p>