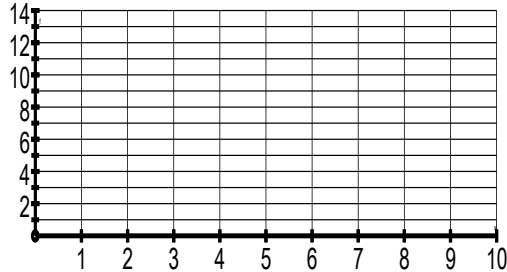
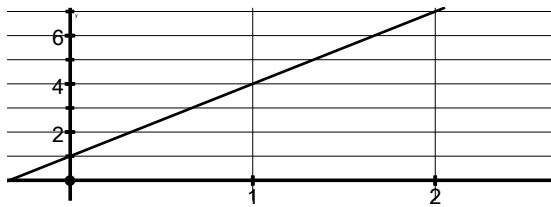
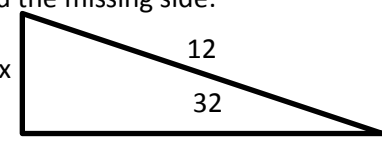
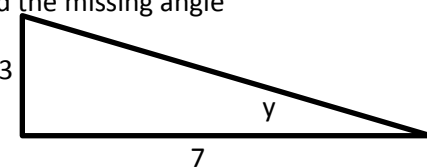
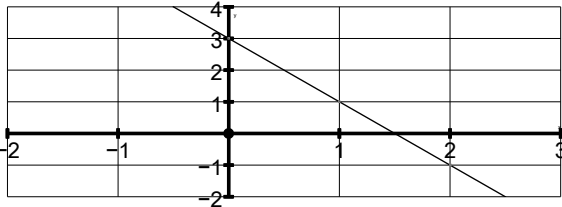
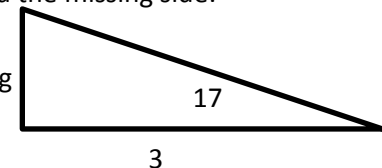

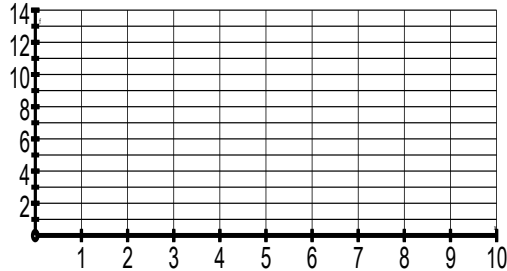


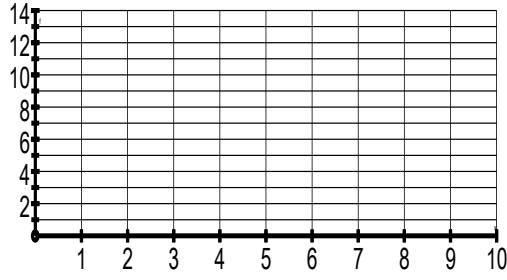
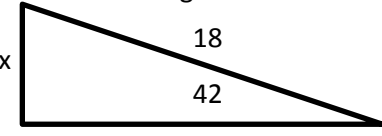
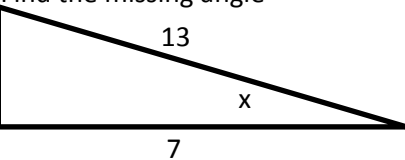
Grade B practice sheets – do calculations in your exercise book and write answers in spaces provided

Number		Re-arrange to make x the subject	Construct the cumulative frequency diagram															
Jack invests £300 with a compound interest of 5%. How much will he have after 2 years?		$a(x + 2) = q$	<table border="1"> <thead> <tr> <th>Height</th> <th>Frequency</th> <th>Cumulative. freq</th> </tr> </thead> <tbody> <tr> <td>$0 \leq h < 2$</td> <td>3</td> <td></td> </tr> <tr> <td>$2 \leq h < 4$</td> <td>5</td> <td></td> </tr> <tr> <td>$4 \leq h < 6$</td> <td>4</td> <td></td> </tr> <tr> <td>$6 \leq h < 8$</td> <td>2</td> <td></td> </tr> </tbody> </table>	Height	Frequency	Cumulative. freq	$0 \leq h < 2$	3		$2 \leq h < 4$	5		$4 \leq h < 6$	4		$6 \leq h < 8$	2	
Height	Frequency	Cumulative. freq																
$0 \leq h < 2$	3																	
$2 \leq h < 4$	5																	
$4 \leq h < 6$	4																	
$6 \leq h < 8$	2																	
Calculations		Evaluate the following when $x = 2, y = 0.2$ and $z = -3$																
$3\frac{1}{7} + \frac{21}{3} =$		$z^2 + 3yz$																
$2\frac{1}{4} \times 3\frac{1}{3} =$		Write down all integers which satisfy $-5 < 2x \leq 6$																
$2^{-3} =$		Find the equation of the following line																
$3.2 \times 10^4 =$																		
Write in standard form: 0.0000312																		
$x^0 =$																		
simplify $(2x^3)^2 \div x^{-3}$																		
Algebra																		
solve $\frac{x+2}{3} + \frac{1}{2} = 3$		Shape and space																
$3x + 2y = 13$ $4x - y = 10$		Find the missing side:	<p>Estimate the median:</p> <p>Jack has a spinner with two colours, red and blue. $p(\text{red}) = \frac{1}{3}$. He spins it twice. Construct a tree diagram to represent this situation</p> <p>Find, $p(\text{getting exactly one red})$</p>															
Expand $(x + 3)(x - 5)$																		
Factorise $20x + 12$		Find the missing angle																
Factorise $x^2 + 3x$																		
Factorise $x^2 + 7x + 12$																		
Factorise $x^2 - 9$																		

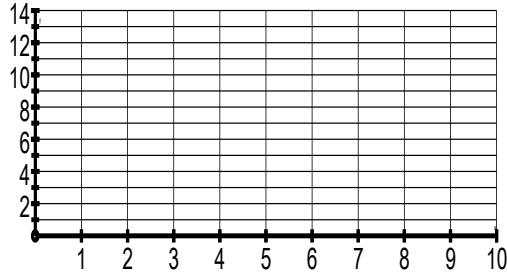
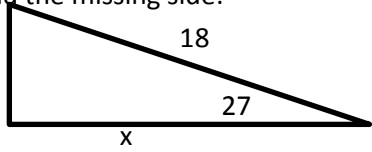
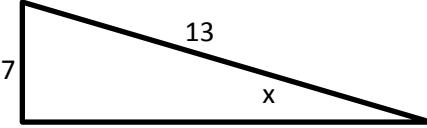
Practice sheet 2		Re-arrange to make x the subject	Construct the cumulative frequency diagram for this table										
Sam buys an antique for £300. It rises in price by 7% and then decreases by 7%. What is it now worth?		$\frac{1}{2}a(x - b) = 1$	<table border="1"> <thead> <tr> <th>Height</th> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td>$1 \leq h < 2$</td> <td>2</td> </tr> <tr> <td>$2 \leq h < 5$</td> <td>8</td> </tr> <tr> <td>$5 \leq h < 6$</td> <td>3</td> </tr> <tr> <td>$6 \leq h < 10$</td> <td>1</td> </tr> </tbody> </table>	Height	Frequency	$1 \leq h < 2$	2	$2 \leq h < 5$	8	$5 \leq h < 6$	3	$6 \leq h < 10$	1
Height	Frequency												
$1 \leq h < 2$	2												
$2 \leq h < 5$	8												
$5 \leq h < 6$	3												
$6 \leq h < 10$	1												
$3\frac{1}{3} - 1\frac{1}{5}$		Evaluate the following when $x = 2, y = -1$ and $z = 3$ $x^y \times z$											
$\left(2\frac{1}{3}\right)^2$		Write down all integers which satisfy $-7 < 3x \leq 5$											
$2^4 \times 10^{-1} =$		Find the equation of the following line											
Write: 301,000 <i>in standard form</i>													
Write 3.2×10^{-3} as a normal number		$y =$											
$4.2 \times 10^4 \times 2 \times 10^3$													
<i>simplify</i> $(5x^2)^2$													
<i>simplify</i> $3x^4y^3 \times 3x^2y$													
<i>solve</i> $\frac{3x + 2}{2} - \frac{1}{3} = \frac{5}{6}$													
$5x + 2y = 16$ $2x + y = 7$	$x =$ $y =$	Find the missing side:											
Expand $(c + 8)(c - 4)$													
Factorise $20x - 8$		Find the missing angle											
Factorise $x^2 - 7x$													
Factorise $x^2 + 5x - 10$			Now sketch the box and whisker plot directly below the graph										
Factorise $x^2 - 16$			Pauline drives through two separate sets of traffic lights. At the first set of lights the $p(\text{red}) = 0.2$. At the second lights $p(\text{red}) = 0.3$. Assume the lights are either red or green. What is the probability that both sets of lights are green?										

Grade B: Practice Sheet 3		Re-arrange to make x the subject $x^2 + t = p$	
In a sale a car is worth £23750 after a 15% reduction. What was it worth before the sale?		Evaluate the following when $x = 2, y = -3$ $x^2 + y^2$	
Find area of a rectangle with dimensions $3\frac{1}{2}cm$ and $2\frac{1}{3}cm$			
Find $\frac{3}{7}$ as a decimal			
Write 2^{-5} as a fraction		Find the equation of the following line	
Write 42000 in standard form			
$3.01 \times 10^{-4} =$		$y =$	
$(4.2 \times 10^4) \div (2 \times 10^{-4}) =$			
<i>simplify</i> $(3x^2y^{-4})^2$			
<i>simplify</i> $\frac{5x}{25x^2}$			
<i>solve</i> $\frac{5}{3x+2} = 11$		Find the missing side:	
$y = 3x + 1$ $3x + y = 7$	$x =$ $y =$		
Expand $(x - 7)(x - 3)$		Find the missing angle	
Factorise $10x + 5$			
Factorise $3x^2 + 18x$			
Factorise $x^2 + 2x - 18$			
Factorise $x^2 - 100$			
			<p>In a survey of 14 people, the lowest amount of pocket money was £2, the median was £8, the maximum amount was £9. The Lower quartile was £3 and the Upper Quartile was £8.50. Sketch the cumulative frequency diagram below to represent this information</p> 
			<p>Simon has a biased coin such the $P(\text{head}) = \frac{3}{10}$. He tosses it two times. Draw a tree diagram to represent the situation below and find $p(\text{two tails})$</p>

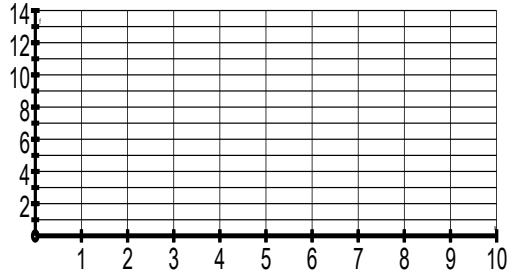
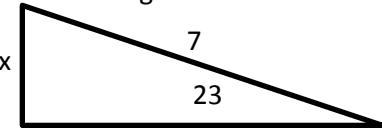
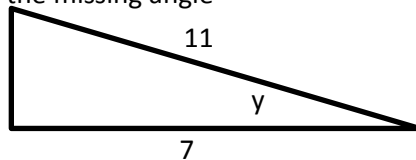
Grade B practice sheet 4 – do calculations in your exercise book and write answers in spaces provided – [C] indicates calculator allowed

Number		Re-arrange to make x the subject		Construct the cumulative frequency diagram																
[C] A population of 3000 increases by 10% a year. What will it be in 5 years?		$\sqrt{x + 1} = b$		<table border="1"> <thead> <tr> <th>Height</th> <th>Frequency</th> <th>Cumulative. freq</th> </tr> </thead> <tbody> <tr> <td>$0 \leq h < 1$</td> <td>2</td> <td></td> </tr> <tr> <td>$1 \leq h < 3$</td> <td>7</td> <td></td> </tr> <tr> <td>$3 \leq h < 7$</td> <td>2</td> <td></td> </tr> <tr> <td>$7 \leq h < 10$</td> <td>3</td> <td></td> </tr> </tbody> </table>		Height	Frequency	Cumulative. freq	$0 \leq h < 1$	2		$1 \leq h < 3$	7		$3 \leq h < 7$	2		$7 \leq h < 10$	3	
Height	Frequency	Cumulative. freq																		
$0 \leq h < 1$	2																			
$1 \leq h < 3$	7																			
$3 \leq h < 7$	2																			
$7 \leq h < 10$	3																			
Calculations		Evaluate the following when $x = 2, y = 11$ and $z = -3$		 <p>Estimate the median:</p>																
$\left(1\frac{3}{5}\right)^2$		$\frac{6xy}{z}$																		
$1 \div 1\frac{3}{4}$		Write down all integers which satisfy $-11 < 3x + 1 < 10$																		
$3^{-2} =$		Sketch the graph of $y = x^2 + 1$ below																		
$3.2 \times 10^{-4} =$																				
Write in standard form: 401,000,000																				
$6^0 =$																				
<i>simplify:</i> $3x^2y^3 \times 2x^5y^{-1}$																				
Algebra		Shape and space																		
$\frac{x + 1}{3} + \frac{2x}{4} = 2$		[C] Find the missing side:																		
Solve the simultaneous equations $y = x + 1$ $2x + y = 10$																				
Expand $(x + 7)^2$		[C] Find the missing angle																		
Factorise $4x^2 + 12x$																				
Factorise $x^2 + 5x - 24$																				
Factorise $x^2 - 16$																				
				Paul is driving through two sets of traffic lights. The probability that one set of lights is green is $\frac{3}{5}$. Find the probability that both sets of lights are red.																

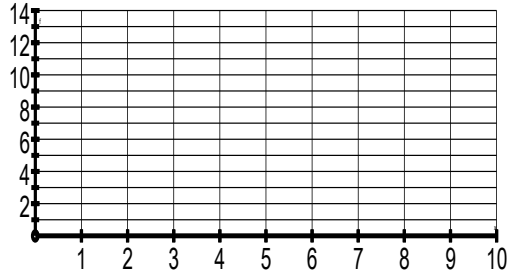
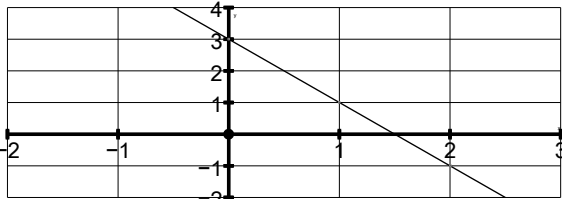
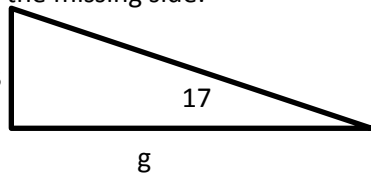
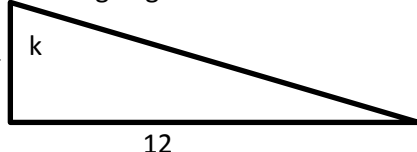
Grade B practice sheet 5 – do calculations in your exercise book and write answers in spaces provided – [C] indicates calculator allowed

Number		Re-arrange to make x the subject	Construct the cumulative frequency diagram															
A car originally costs £18000. It depreciates by 10% per year. What is it worth after 2 years?		$\frac{3x + t}{y} = p$		<table border="1"> <thead> <tr> <th>Height</th> <th>Frequency</th> <th>Cumulative. freq</th> </tr> </thead> <tbody> <tr> <td>$0 \leq h < 3$</td> <td>1</td> <td></td> </tr> <tr> <td>$3 \leq h < 6$</td> <td>2</td> <td></td> </tr> <tr> <td>$6 \leq h < 8$</td> <td>8</td> <td></td> </tr> <tr> <td>$8 \leq h < 9$</td> <td>1</td> <td></td> </tr> </tbody> </table>	Height	Frequency	Cumulative. freq	$0 \leq h < 3$	1		$3 \leq h < 6$	2		$6 \leq h < 8$	8		$8 \leq h < 9$	1
Height	Frequency	Cumulative. freq																
$0 \leq h < 3$	1																	
$3 \leq h < 6$	2																	
$6 \leq h < 8$	8																	
$8 \leq h < 9$	1																	
Calculations		Evaluate the following when $x = 2, y = 0.5$ and $z = -3$	 <p>Estimate the median:</p>															
$3\frac{1}{3} - 1\frac{3}{4}$		$\frac{xz^2}{y}$																
$3\frac{1}{4} \div 2\frac{1}{5}$		Write down all integers which satisfy $0 < 2x < 4$																
Write $\frac{2}{7}$ as a recurring decimal		Sketch the graph of $y = x^3$ below																
$1.04 \times 10^4 =$																		
Write in standard form: 0.000003102																		
simplify: $(3x^2y^3)^2 \div (xy^4)$																		
Algebra		Shape and space																
$\frac{3x + 1}{2} - \frac{x}{5} = 3$		[C] Find the missing side:																
Solve the simultaneous equations $3y + y + 12$ $2x + y = 10$																		
Expand: $(x - 3)^2$		[C] Find the missing angle																
Factorise $7xy^2 + 14y$																		
Factorise $x^2 + 11x + 30$																		
Factorise $x^2 - 25$																		
		A game of chance has two sections. The probability of winning the first section is 0.3. The probability of winning the second section is 0.4. What is the probability of losing both sections?																

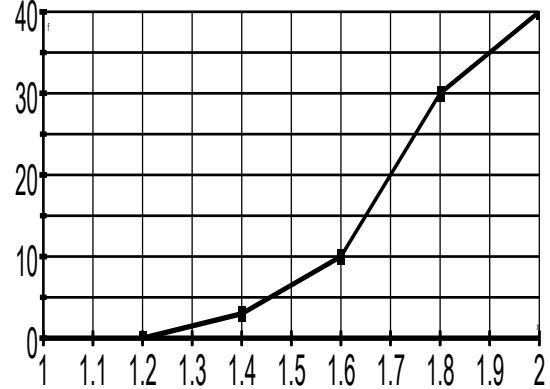
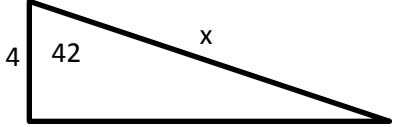
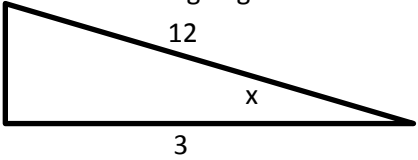
Grade B practice sheet 6 – do calculations in your exercise book and write answers in spaces provided

Number		Re-arrange to make x the subject		Construct the cumulative frequency diagram																
Simon invests £1000 with a compound interest of 7%. What single calculation will find out how much he will have after 10 years?		$\frac{x}{a} - b = c$		<table border="1"> <thead> <tr> <th>Height</th> <th>Frequency</th> <th>Cumulative. freq</th> </tr> </thead> <tbody> <tr> <td>$0 \leq h < 1$</td> <td>1</td> <td></td> </tr> <tr> <td>$1 \leq h < 2$</td> <td>2</td> <td></td> </tr> <tr> <td>$2 \leq h < 9$</td> <td>10</td> <td></td> </tr> <tr> <td>$9 \leq h < 10$</td> <td>1</td> <td></td> </tr> </tbody> </table>		Height	Frequency	Cumulative. freq	$0 \leq h < 1$	1		$1 \leq h < 2$	2		$2 \leq h < 9$	10		$9 \leq h < 10$	1	
Height	Frequency	Cumulative. freq																		
$0 \leq h < 1$	1																			
$1 \leq h < 2$	2																			
$2 \leq h < 9$	10																			
$9 \leq h < 10$	1																			
Calculations		Evaluate the following when $x = 2, y = 0.2$ and $z = -3$		 <p>Estimate the median:</p> <p>A biased coin, such that the probability of getting a tail is 0.2, is tossed twice. Construct a tree diagram to represent this.</p> <p>Find, $p(\text{getting two tails})$</p>																
$5\frac{1}{2} - 3\frac{3}{5} =$		$(xz)^2 - 5y$																		
$5\frac{1}{4} \times 2\frac{1}{3} =$		Write down all integers which satisfy $-5 < 3x < 12$																		
$3^{-1} =$		A line has a gradient of 3 and a y-intercept of -1.																		
$3.21 \times 10^5 =$		a) Write down the equation:																		
Write in standard form: 0.003017		b) Is the coordinate (2,12) above or below the line?																		
$(5x^2y)^0 =$																				
Simplify: $5x^2y^3 \times 2x^4y^{-1}$																				
Algebra		Shape and space																		
$\text{solve } \frac{x}{3} + \frac{1}{2} = 2$		Find the missing side:																		
5 red tokens and 3 blue tokens cost 75p. 8 red tokens and 2 blue tokens cost 106p. Write down two simultaneous equations to represent this.																				
Factorise $5x^2 + 15x$		Find the missing angle																		
Factorise $x^2 + 9x + 8$																				
Factorise $x^2 - 169$																				

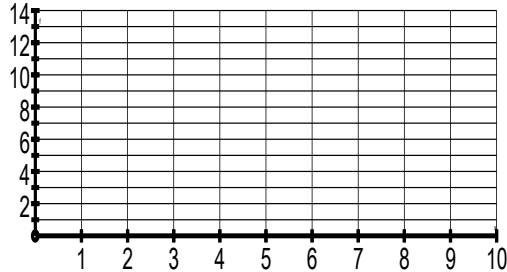
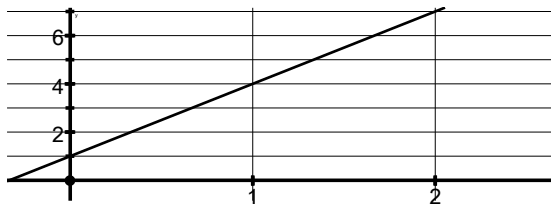
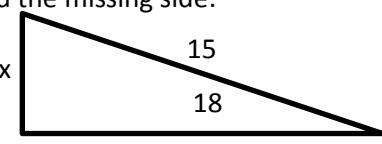
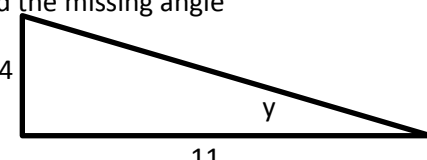
Practice sheet 7		Re-arrange to make x the subject	Construct the cumulative frequency diagram for this table										
An antique priced at £3000 in 2010 rises by 10% per year. What is its price in 2013?		$\frac{a(x + b)}{2} = c$	<table border="1"> <thead> <tr> <th>Height</th> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td>$3 \leq h < 4$</td> <td>3</td> </tr> <tr> <td>$4 \leq h < 6$</td> <td>4</td> </tr> <tr> <td>$6 \leq h < 9$</td> <td>6</td> </tr> <tr> <td>$9 \leq h < 10$</td> <td>1</td> </tr> </tbody> </table>	Height	Frequency	$3 \leq h < 4$	3	$4 \leq h < 6$	4	$6 \leq h < 9$	6	$9 \leq h < 10$	1
Height	Frequency												
$3 \leq h < 4$	3												
$4 \leq h < 6$	4												
$6 \leq h < 9$	6												
$9 \leq h < 10$	1												
$\left(3\frac{1}{3}\right)^2$		Evaluate the following when $x = 2, y = -1$ and $z = 3$ $\frac{4y^2}{x} - z$											
$1\frac{1}{4} \div 1\frac{1}{3}$		Write down all integers which satisfy $-11 < 4x < 20$											
$3 \div 1\frac{1}{4}$		Find the equation of the line parallel to the one below which passes through the coordinate (0,2)											
Write: 202, 100,000 <i>in standard form</i>													
Write 2.01×10^{-5} as a normal number													
$(9.8 \times 10^9) \div (2 \times 10^3)$ <i>simplify</i> $(3x^5)^2$		Find the missing side:											
<i>simplify</i> $4x^7y^3 \times 3x^2y^4$													
<i>solve</i> $\frac{(5x + 2)}{3} + \frac{x}{2} = 2$		Find the missing angle:											
$5x + 3y = 25$ $2x + 6y = 12$	$x =$ $y =$												
Expand $(q - 4)^2$				Now sketch the box and whisker plot directly below the graph above									
Factorise $18x - 9$			On a spinner, the probability of getting a red is 0.4. What is the probability of getting three reds in a row if the spinner is spun three times?										
Factorise $16x^2 - 8x$													
Factorise $x^2 + 9x - 22$													
Factorise $x^2 - 1$													

Grade B: Practice Sheet 8		Re-arrange to make x the subject $2x^2 = 8a$	
A TV is now worth £315 after a 10% reduction. How many pounds was it reduced by?		Evaluate the following when $x = 2, y = -3$ $x^3 + y^3$	
Find area of a square with dimensions $4\frac{1}{3}$ cm		Write down the gradient of any line perpendicular to the one below	<p>In a survey of 14 people, the lowest amount of pocket money was £1, the median was £5 and the lower quartile was £3. The range was £8.50 and the IQR was £3. Sketch the cumulative frequency diagram below to represent this information.</p> 
Find $\frac{1}{11}$ as a decimal			
Write 10^{-3} as a fraction			
Write 0.0012 in standard form		Perpendicular gradient =	
$3.4 \times 10^4 =$		Find the missing side:	
$(4.2 \times 10^4) + (2 \times 10^3) =$			
<i>simplify</i> $(5x^4y^{-3})^2$			
<i>simplify</i> $\frac{2x^3}{14x^4}$			
<i>solve</i> $\frac{x+4}{3x+1} = \frac{2}{5}$		Find the missing angle	
$x = 2y - 1$ $3x - y = 22$	$x =$ $y =$		
Expand $(x - 7)(x + 2)$			
Factorise $18x + 54$			
Factorise $35y + 10xy$			
Factorise $x^2 + 8x + 16$			
Factorise $z^2 - 25$			<p>Simon has a biased coin such the $P(\text{head}) = \frac{7}{10}$. He tosses it two times. Draw a tree diagram to represent the situation below and find $p(\text{at least one tail})$</p>

Grade B practice sheet 9 – do calculations in your exercise book and write answers in spaces provided – [C] indicates calculator allowed

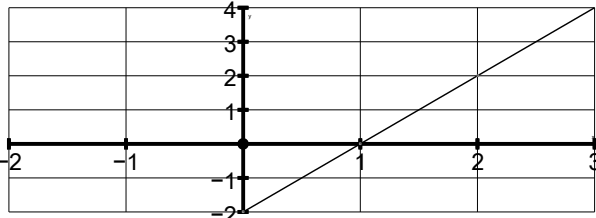
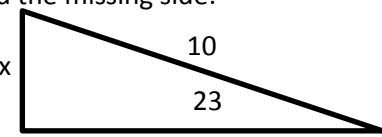
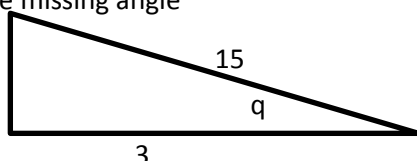
Number		Re-arrange to make x the subject $\sqrt{x + b} = c$	The following cumulative frequency graph represents the heights of 40 adults
[C] A bacteria population starts at 300 and increases by 15% per year. Will it double in size in 5 years?		Evaluate the following when $x = 2, y = 11$ and $z = -3$ $\frac{y}{2} \times \frac{z}{x}$	
Calculations		Sketch the inequality $3x + 4y < 12$	 <p>Approximately what height are 30% of the population above?</p>
Paul travel $3\frac{1}{4}$ miles in $\frac{3}{5}$ of an hour. What is his average speed?			
$(-2)^{-2} =$			
$1.04 \times 10^{-3} =$			
Write in standard form: $(3 \times 10^4) \div (6 \times 10^{-7})$			
$7^0 =$			
<i>simplify:</i> $3x \times 2x^2y \times 4y^3$			
Algebra		Shape and space	
$\frac{x}{3} - \frac{3x - 1}{4} = 1$		[C] Find the missing side: 	
Solve the simultaneous equations $y = x + 1$ $y = 3x + 4$		[C] Find the missing angle 	Tim drives through two sets of lights. 1 st set: $p(\text{green})=0.6$ 2 nd set: $p(\text{green})=0.7$ Draw a probability tree diagram and find the probability both are red
Expand: $2(x + 2)^2$			

Grade B practice sheet 10 – do calculations in your exercise book and write answers in spaces provided – [C] indicates calculator allowed

Number		Re-arrange to make a the subject $v = u + at$	Construct the cumulative frequency diagram <table border="1"> <thead> <tr> <th>Height</th> <th>Frequency</th> <th>Cumulative. freq</th> </tr> </thead> <tbody> <tr> <td>$0 \leq h < 2$</td> <td>5</td> <td></td> </tr> <tr> <td>$2 \leq h < 4$</td> <td>3</td> <td></td> </tr> <tr> <td>$4 \leq h < 6$</td> <td>2</td> <td></td> </tr> <tr> <td>$6 \leq h < 8$</td> <td>4</td> <td></td> </tr> </tbody> </table> 	Height	Frequency	Cumulative. freq	$0 \leq h < 2$	5		$2 \leq h < 4$	3		$4 \leq h < 6$	2		$6 \leq h < 8$	4	
Height	Frequency	Cumulative. freq																
$0 \leq h < 2$	5																	
$2 \leq h < 4$	3																	
$4 \leq h < 6$	2																	
$6 \leq h < 8$	4																	
A rectangle with base 8cm and height 4cm is similar to a new rectangle with a base of 10cm. What is the area of the new rectangle?		Evaluate u when $t = 1, a = 10, s = 7$ In the equation $s = ut + \frac{1}{2}at^2$																
Calculations		Write down all integers which satisfy $-7 < 3x < 5$																
$3\frac{1}{2} + 4\frac{1}{3} =$																		
$3\frac{1}{3} \times 2\frac{1}{4} =$		Write down the equation of a line parallel to this one 																
10^{-1} as a decimal is:																		
$4.2 \times 10^5 =$		Shape and space																
Write in standard form: 0.00301																		
$(5x)^0$																		
Simplify: $5x^2y \times 2x^3y^2$																		
Algebra																		
solve $\frac{3x}{4} + \frac{x+2}{3} = 1$		Find the missing side: 																
$y = 3x + 1$ $2x + 3y = 25$		Find the missing angle 																
Expand $(x + 7)(x - 3)$																		
Factorise $24x - 8$																		
Factorise $3x^2 + 12x$																		
Factorise $x^2 + 11x + 30$		Find, $p(\text{winning twice})$																
Factorise $x^2 - 1$																		

Estimate the median:

The probability Jack wins a game is 0.3. He plays the game twice. Construct a tree diagram.

Practice sheet 11: Name		Re-arrange to make t the subject		Sketch below the box and whisker plot for the following data representing the scores of class A: Lowest value = 20 Highest value = 40 Lower Quartile = 24 Median = 26 Upper Quartile = 32 Make two distinct comparisons with class B which has a median of 32 and an Interquartile range of 17 1) 2) The probability of winning a game is 0.2. Find the probability of winning three successive games
A population of 3000 increases by 5% per year for three years. What is the new population?		$s = \frac{(u + v)t}{2}$		
$3\frac{1}{5} \times 2\frac{1}{3}$		$x = 2$ and $y = 3$ to the nearest whole number. What is the minimum possible value of $x + y$		
$\left(1\frac{1}{3}\right)^3$		Write down all integers which satisfy $-2 < 2x \leq 10$		
$100^{\frac{1}{2}} =$		Find the equation of the line parallel to the one below with a y-intercept of 3		
Write: 320,000,000 <i>in standard form</i>				
Write 2.71×10^{-3} as a normal number				
$1.2 \times 10^2 + 3 \times 10^3$				
Simplify: $(2x^5)^3$				
<i>simplify</i> $5x^7y \times 3xy^3$				
<i>solve</i> $\frac{2x + 5}{3} + 1 = 9$				
$y = x + 2$ $3x + y = 22$	$x =$ $y =$	Find the missing side:		
Expand $(c + 4)(c + 5)$				
Factorise $30x + 15$		Find the missing angle		
Factorise $x^2 + 8x$				
Factorise $x^2 + 12x + 20$				
Factorise $x^2 - 25$				

