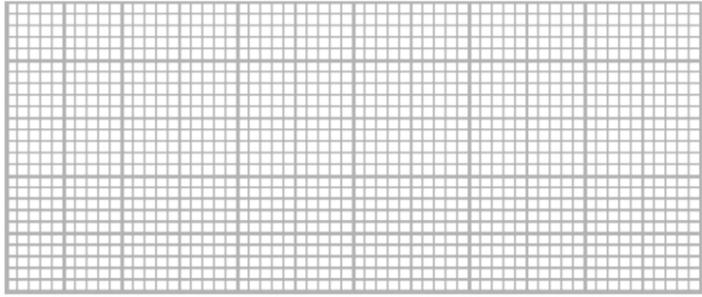


Percentage	I can ...	Prove it!												
	<p>H15.3 I can solve equations with algebraic fractions</p>	<p>Solve:</p> $\frac{x+2}{3x} + \frac{x-2}{2x} = 3$ <p>Solve:</p> $\frac{7}{x+1} + \frac{4}{x+4} = 3$												
	<p>H15.2 I can manipulate algebraic fractions</p>	<p>Find an expressions for the area. Simplify your answer fully:</p> <p>Calculate and simplify fully</p> $\frac{a-1}{2a+1} - \frac{3a+2}{a-5} \qquad \frac{a+3}{a+2} + \frac{a+2}{a+5}$ $\frac{5a-1}{3a^2-1} - \frac{4a-1}{2a^2-3} \qquad \frac{2a+1}{3a+2} + \frac{3a+2}{4a+1}$												
	<p>H19.2 I can find interpret and find the median from a histogram</p>	<p>A survey was carried out to record the speeds of cars entering a village. The histogram illustrates the results of the survey.</p> <p>(a) Use the histogram to complete the grouped frequency table below.</p> <table border="1"> <thead> <tr> <th>Speed, <math>s</math> (mph)</th> <th><math>0 &lt; s \leq 20</math></th> <th><math>20 &lt; s \leq 30</math></th> <th><math>30 &lt; s \leq 40</math></th> <th><math>40 &lt; s \leq 50</math></th> <th><math>50 &lt; s \leq 60</math></th> </tr> </thead> <tbody> <tr> <td>Frequency</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>(b) 40% of the cars surveyed were fined for exceeding a certain speed as they entered the village. Calculate an estimate of this speed.</p>	Speed, $s$ (mph)	$0 < s \leq 20$	$20 < s \leq 30$	$30 < s \leq 40$	$40 < s \leq 50$	$50 < s \leq 60$	Frequency					
Speed, $s$ (mph)	$0 < s \leq 20$	$20 < s \leq 30$	$30 < s \leq 40$	$40 < s \leq 50$	$50 < s \leq 60$									
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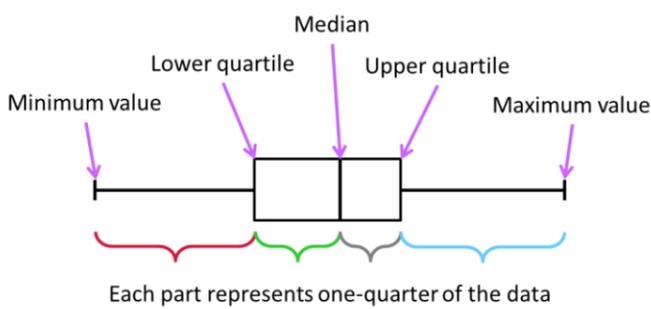
Percentage	I can ...	Prove it!
	<p>H15.1 I can simplify algebraic fractions</p>	<p>1. Simplify the algebraic fractions below:</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <math display="block">\frac{12wx}{3x}</math> </div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <math display="block">\frac{6a^2b}{9ab^3}</math> </div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <math display="block">\frac{x^2 + 3x}{6x + 9}</math> </div> </div> <p>2. Show that <math>\frac{2x^2 - 3x - 5}{x^2 + 6x + 5}</math> can be written in the form <math>ax + b</math> <math>\frac{cx}{x^2 + 6x + 5} + d</math> where <math>a, b, c</math> and <math>d</math> are integers.</p>
	<p>H19.5 I can construct and interpret box and whisker plots</p>	<p>14 Ben played 15 games of basketball. Here are the points he scored in each game. 17 18 18 18 19 20 20 22 23 23 23 26 27 28 28</p> <p>(a) Draw a box plot for this information.</p>  <p>Sam plays in the same 15 games of basketball. The median number of points Sam scored is 23 The interquartile range of these points is 12 The range of these points is 20</p> <p>(b) Who is more consistent at scoring points, Sam or Ben? You must give a reason for your answer.</p>
	<p>C23.1 I can use and apply formulas for pressure and density</p>	<p>1. Find the density of each gem stone:</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; text-align: center;">  <p>Diamond Mass 5 g Volume 1.42 cm<sup>3</sup></p> </div> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; text-align: center;">  <p>Emerald Mass 1.6 g Volume 0.6 cm<sup>3</sup></p> </div> </div> <p>2. A box exerts a force of 140 newtons on a table. The pressure on the table is 35 newtons/m<sup>2</sup>. Calculate the area of the box that is in contact with the table.</p>



Percentage	I can ...	Prove it!														
	<b>H19.4 I can plot and interpret cumulative frequency diagrams</b>	<p>The table below shows marks for the Year 7 post Assessments. Plot the data as a cumulative frequency diagram:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Mark (<math>m</math>)</th> <th>Cumulative frequency</th> </tr> </thead> <tbody> <tr> <td><math>0 &lt; m \leq 10</math></td> <td>8</td> </tr> <tr> <td><math>0 &lt; m \leq 20</math></td> <td>23</td> </tr> <tr> <td><math>0 &lt; m \leq 30</math></td> <td>48</td> </tr> <tr> <td><math>0 &lt; m \leq 40</math></td> <td>65</td> </tr> <tr> <td><math>0 &lt; m \leq 50</math></td> <td>74</td> </tr> <tr> <td><math>0 &lt; m \leq 60</math></td> <td>80</td> </tr> </tbody> </table> <p>Use your diagram to find the median mark.</p>	Mark ( $m$ )	Cumulative frequency	$0 < m \leq 10$	8	$0 < m \leq 20$	23	$0 < m \leq 30$	48	$0 < m \leq 40$	65	$0 < m \leq 50$	74	$0 < m \leq 60$	80
Mark ( $m$ )	Cumulative frequency															
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	<b>C22.2 I can plot interpolate and extrapolate to make estimates</b>	<p>The scatter graph shows the number of driving lessons and the number of tests needed to pass by 10 people.</p> <p>(a) What proportion of the 10 people passed on their first test?</p> <p>(b) Use a line of best fit to estimate the number of tests needed to pass by a person who has 50 lessons.</p>														
	<b>H19.3 I can construct and interpret frequency polygons</b>	<p>Represent the data below in a frequency polygon:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Mass (g)</th> <th><math>40 \leq m &lt; 50</math></th> <th><math>50 \leq m &lt; 60</math></th> <th><math>60 \leq m &lt; 70</math></th> <th><math>70 \leq m &lt; 80</math></th> <th><math>80 \leq m &lt; 90</math></th> </tr> </thead> <tbody> <tr> <td>Number of apples</td> <td>3</td> <td>12</td> <td>16</td> <td>8</td> <td>4</td> </tr> </tbody> </table> <p>Use the frequency polygon to comment on the distribution</p>	Mass (g)	$40 \leq m < 50$	$50 \leq m < 60$	$60 \leq m < 70$	$70 \leq m < 80$	$80 \leq m < 90$	Number of apples	3	12	16	8	4		
Mass (g)	$40 \leq m < 50$	$50 \leq m < 60$	$60 \leq m < 70$	$70 \leq m < 80$	$80 \leq m < 90$											
Number of apples	3	12	16	8	4											
	<b>C22.2 I can construct and interpret time series charts</b>	<p>The chart below shows the sales of shoes on lower marsh. The shop had a target of selling 96 shoes per month on average, did the shop meet its target?</p>														



Percentage	I can ...	Prove it!																				
	<p><b>C21.1 I can find averages from frequency tables</b></p>	<p>The table below shows how many goals the football team have scored this season, find the mean and median number of goals:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Number of goals</th> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>4</td> </tr> <tr> <td>1</td> <td>5</td> </tr> <tr> <td>2</td> <td>8</td> </tr> <tr> <td>3</td> <td>4</td> </tr> </tbody> </table> <p>The table below shows results for customers who bought hats in October.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Head circumference, <math>c</math> (cm)</th> <th>Number of customers</th> </tr> </thead> <tbody> <tr> <td><math>50 \leq c &lt; 54</math></td> <td>12</td> </tr> <tr> <td><math>54 \leq c &lt; 58</math></td> <td>32</td> </tr> <tr> <td><math>58 \leq c &lt; 62</math></td> <td>14</td> </tr> <tr> <td><math>62 \leq c &lt; 66</math></td> <td>2</td> </tr> </tbody> </table> <p>Calculate an estimate for the mean head circumference. In which class interval does the median lie?</p>	Number of goals	Frequency	0	4	1	5	2	8	3	4	Head circumference, $c$ (cm)	Number of customers	$50 \leq c < 54$	12	$54 \leq c < 58$	32	$58 \leq c < 62$	14	$62 \leq c < 66$	2
Number of goals	Frequency																					
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	<p><b>I can find the mean, median, mode and range from a data set</b></p>	<p>For each data set find the mean, median and mode if it exists:</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; border-radius: 50%; padding: 10px; background-color: #e0e0e0;"> <p>4, 17, 9, 8, 22</p> </div> <div style="border: 1px solid black; border-radius: 50%; padding: 10px; background-color: #c8e6c9;"> <p>8, 12, 19, 19, 27</p> </div> <div style="border: 1px solid black; border-radius: 50%; padding: 10px; background-color: #e0e0e0;"> <p>3.2, 3.8, 4, 3.2, 4.2, 3.2</p> </div> </div>																				



- Key Words:**
- Interpolate
  - Extrapolate
  - Scatter
  - Correlation
  - Line of best fit
  - Cumulative frequency
  - Interquartile range
  - Upper quartile
  - Lower Quartile
  - Histogram
  - Frequency Density
  - Density
  - Pressure

