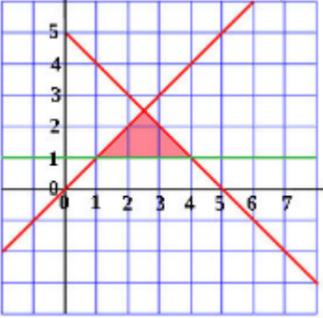
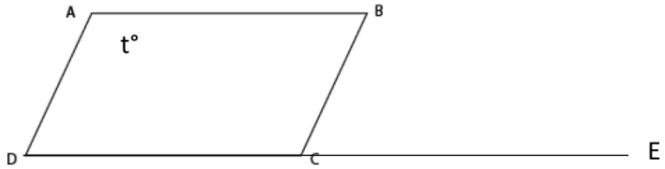
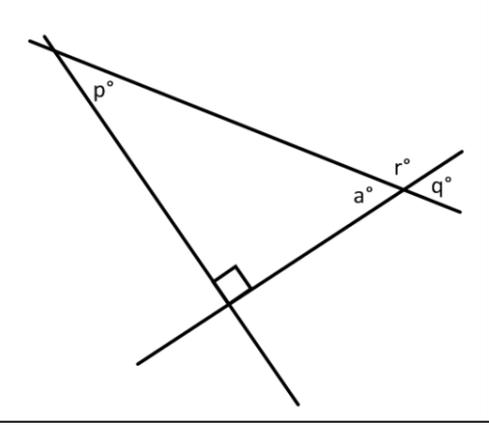
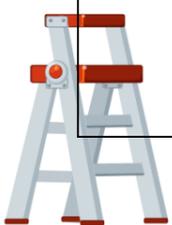


Percentage	I can ...	Prove it!
	<p><b>H8.1 I can express solutions to inequalities using set notation</b></p>	<p>Use Set notation to express the inequalities shown below:</p>
	<p><b>H7.3 I can use vectors to prove geometric arguments</b></p>	<p> <math>ABCD</math> is a quadrilateral.  <math>\vec{AB} = \underline{p}\vec{BC} = \underline{q}</math>  <math>\vec{AD} = \underline{s}\vec{DC} = \underline{r}</math> </p> <p>T, U, V, W are the midpoints of AB, BC, CD and DA respectively.</p> <p>Aim: Prove that TUVW is a parallelogram.</p>
	<p><b>H7.1 I can use algebra to construct proofs of arguments</b></p>	<p>Prove that:</p> <ol style="list-style-type: none"> <li>For that for any 3 consecutive integers, the difference between the squares of the first and last numbers is 4 times the middle number.</li> <li>Prove that the difference between the squares of any two consecutive odd numbers is always a multiple of 8.</li> </ol>
	<p><b>H7.2 I can verify whether two straight lines are perpendicular</b></p>	<p>A is the point (4, 8) and B is the point (-8, 12).                      Find the midpoint of the line segment AB.                      Find the equation of the line perpendicular to AB and passing through the midpoint.</p>
	<p><b>C6.6 I can rearrange formulae where the subject appears twice</b></p>	<p>Rearrange to make f the subject:</p> $\frac{1}{f} + \frac{1}{g} = \frac{1}{h}$ <p>Rearrange to make f the subject:</p> <ol style="list-style-type: none"> <li> <math display="block">\frac{f + 3}{f + 4} = g</math> </li> <li> <math display="block">\frac{5f - 3}{9 - 4f} = g</math> </li> </ol>



Percentage	I can ...	Prove it!
	<p><b>H8.2 I can solve inequalities representing the solution set on a graph</b></p>	 <ol style="list-style-type: none"> <li>1. State the inequalities satisfied by the shaded region.</li> <li>2. On a grid, shade the region that satisfies all three of these inequalities  <math>y &gt; -4</math>    <math>x &lt; 2</math>    <math>y &lt; 2x + 1</math></li> </ol>
	<p><b>C7.2 I can use properties of triangles and quadrilaterals to derive simple proofs</b></p>	<p>Shape ABCD is a parallelogram,</p>  <p>Angle <math>\angle BAD</math> is equal to <math>t^\circ</math>.          In terms of <math>t^\circ</math>, find angles <math>\angle ABC</math>, <math>\angle BCD</math>, <math>\angle ADC</math>.          In terms of <math>t^\circ</math>, find angles <math>\angle BCE</math>.</p>
	<p><b>C7.1 I can use angle facts to justify results in simple proofs</b></p>	<p>Write an expression, <b>in terms of <math>q</math></b>, for the sizes of angles <math>p</math>, <math>a</math> and <math>r</math>.          In each case, give reasons for the steps in your calculations.</p> 
	<p><b>C6.3 I can substitute into kinematics formulae to solve problems</b></p>	<p>A train starts from rest and accelerates uniformly at <math>0.5\text{m/s}^2</math> until it attains a speed of <math>60\text{m/s}</math>. Find the time taken and the distance travelled.</p>  <div style="border: 1px solid black; border-radius: 15px; padding: 10px; width: fit-content; margin-left: auto; margin-right: auto;"> <math display="block">v = u + at</math> <math display="block">s = ut + \frac{1}{2}at^2</math> <math display="block">v^2 = u^2 + 2as</math> </div>



Percentage	I can ...	Prove it!
 52%	<b>C6.5 I can manipulate expressions to solve problems with co-ordinates</b>	Find the equation of lines with the following properties: <ul style="list-style-type: none"> <li>- Gradient 4, passing through (0, 1)</li> <li>- Parallel to <math>y = \frac{1}{2}x + 3</math>, passing through (1, 4)</li> <li>- Gradient -1, passing through (0, -2)</li> <li>- Parallel to <math>y = -2x + 3</math>, passing through (2, 5)</li> </ul>
 50%	<b>C6.2 I can simplify complex algebraic expressions</b>	<b>Expand and simplify:</b> <ul style="list-style-type: none"> <li>a) <math>2(x + 6) - 7(x - 9)</math></li> <li>b) <math>5a(2a + 1) - 4(8 - a)</math></li> <li>c) <math>(x + 6)(x - 9)</math></li> <li>d) <math>(3a - 1)^2</math></li> <li>e) <math>(2a + 1)(3a - 4)(a + 5)</math></li> </ul> <b>Factorise:</b> <ul style="list-style-type: none"> <li>a) <math>5py^2 - 15y</math></li> <li>b) <math>4a^2 + 6a</math></li> <li>c) <math>6h - 18h^2 + 24h^3</math></li> <li>d) <math>24a^2b - 18a^3b^2 + 36a^2b</math></li> </ul> <b>Simplify:</b> $\frac{9xy^3}{3xy}$ $(y^5)^2$ $5a^{-2}b^3 \div 5a^2b^{-3}$
 44%	<b>C8.1 I can add and subtract vectors</b> <b>C8.2 I can multiply a vector by a scalar</b>	1. Find the answer to the following vector calculations. $\begin{pmatrix} 2 \\ -1 \end{pmatrix} + \begin{pmatrix} 2 \\ 0 \end{pmatrix} = \begin{pmatrix} \phantom{0} \\ \phantom{0} \end{pmatrix}$ $2 \begin{pmatrix} -3 \\ 5 \end{pmatrix} = \begin{pmatrix} \phantom{0} \\ \phantom{0} \end{pmatrix}$ $\begin{pmatrix} 5 \\ -3 \end{pmatrix} = \begin{pmatrix} 4 \\ 6 \end{pmatrix} - \begin{pmatrix} \phantom{0} \\ \phantom{0} \end{pmatrix}$ 2. Draw the vector $\overrightarrow{PQ} = \begin{pmatrix} 3 \\ -1 \end{pmatrix}$ <ul style="list-style-type: none"> <li>a) Draw the vector <math>2\overrightarrow{PQ}</math></li> <li>b) Draw the vector <math>2\overrightarrow{PQ}</math></li> </ul>



Percentage	I can ...	Prove it!
	<p><b>C6.5 I can find the equation of a straight line and identify parallel lines from equations</b></p>	<p>Find the equations of the straight lines below and 3 lines which are parallel to these:</p>
	<p><b>C6.1 I can form simple formulae from real life situations</b></p>	<p>Each box below contains the same number of chocolates. Calculate the value of <math>c</math>.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <div style="border: 1px solid green; background-color: #90EE90; padding: 2px; width: 60px; margin: 5px auto;"><math>4c + 8</math></div> </div> <div style="text-align: center;"> <div style="border: 1px solid green; background-color: #90EE90; padding: 2px; width: 60px; margin: 5px auto;"><math>2c + 2</math></div> </div> </div>

**Key Words:**

- Identity
- Equation
- Expression
- Vector
- Magnitude
- Co-linear
- Perpendicular
- Midpoint
- Gradient
- Proof
- Initial Velocity
- Acceleration

