
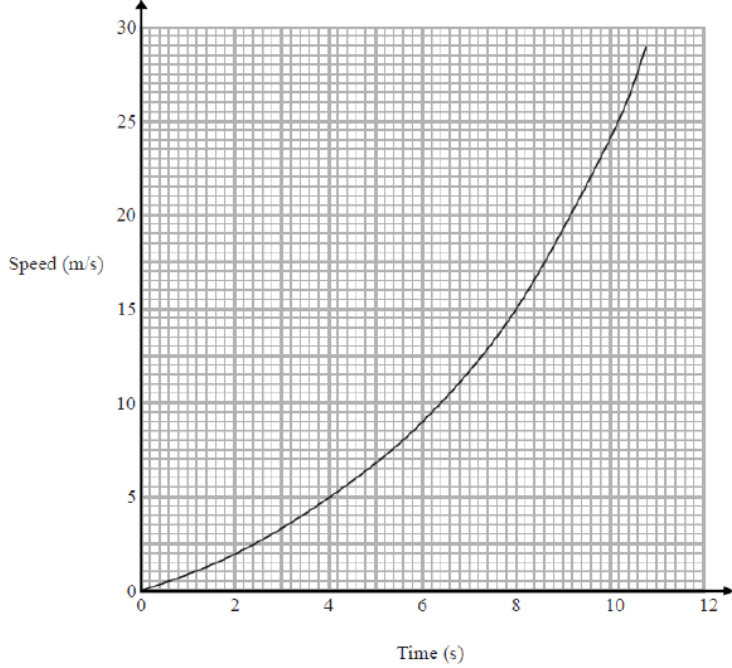

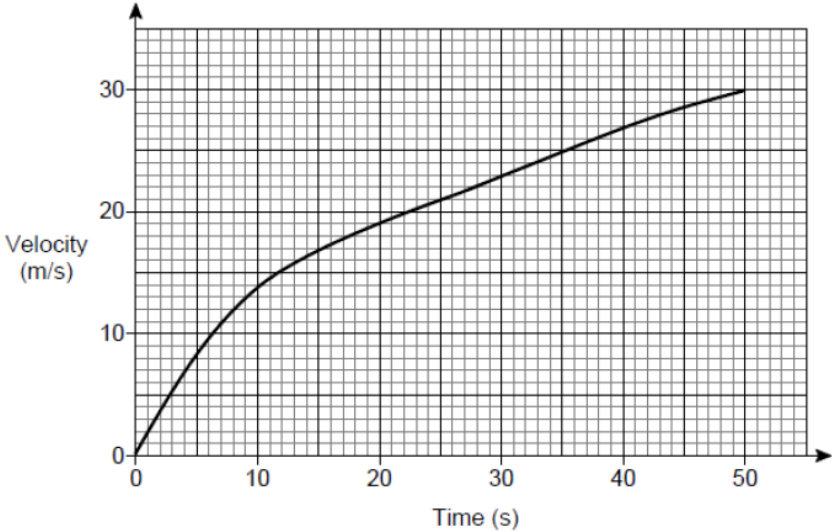

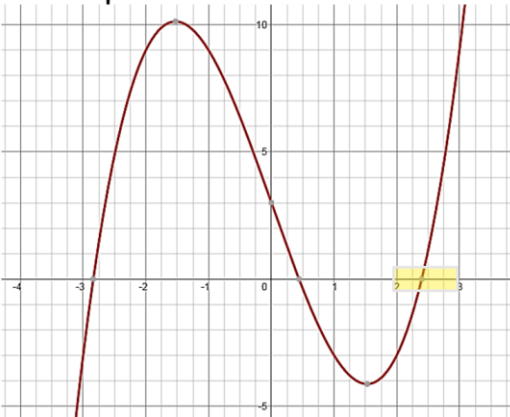
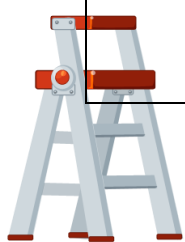
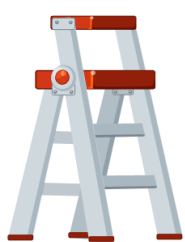


Percentage	I can ...	Prove it!
	<p>H21.3 I can interpret areas under graphs</p>	<p>Here is a speed-time graph for a car.</p>  <p>1. Work out an estimate for the distance the car travelled in the first 10 seconds. Use 5 strips of equal width.</p> <p>2. Is your answer above an underestimate or an overestimate of the actual distance?</p>
	<p>H21.2 I can estimate the gradients of graphs</p>	<p>Here is the velocity-time graph of a car for 50 seconds.</p>  <p>Work out the average acceleration during the 50 seconds. Give the units of your answer.</p>
	<p>H21.1 I can find approximate solutions to equations</p>	<p>Suppose $f(x) = x^3 - 7x + 3$</p> <p>The graph below shows that $f(x) = 0$ has three solutions. One of the solutions lies in the interval $2 < x < 3$. Use a decimal search method to find the value of the root correct to 1 decimal place.</p> 



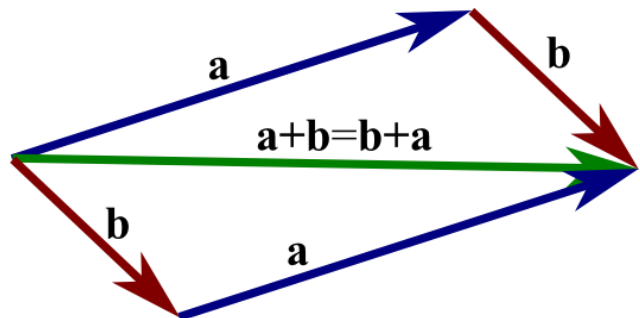
Percentage	I can ...	Prove it!								
	<p>H7.3 I can use vectors to prove geometric arguments</p>	<p>OAB is a triangle. P is the point on AB such that $AP:PB = 5:3$ $OA = 2a$ $OB = 2b$ $OP = k(3a + 5b)$ where k is a scalar quantity. Find the value of k.</p>								
	<p>H20.3 I can find the inverse of a function</p>	<p>1. Match each function to its inverse:</p> <table border="0"> <tr> <td>$f(x) = 2x + 9$</td> <td>$f(x) = \frac{x + 9}{2}$</td> </tr> <tr> <td>$x \rightarrow 4(x - 9)$</td> <td>$x \rightarrow \frac{(x - 9)}{2}$</td> </tr> <tr> <td>$y = 2x - 9$</td> <td>$g(x) = \frac{x}{4} + 9$</td> </tr> <tr> <td>$y = \frac{1}{2}(x + 4)$</td> <td>$x \rightarrow 2x - 4$</td> </tr> </table> <p>2. For all values of x, $f(x) = 4x - 35$ Work out $f^{-1}(x)$</p>	$f(x) = 2x + 9$	$f(x) = \frac{x + 9}{2}$	$x \rightarrow 4(x - 9)$	$x \rightarrow \frac{(x - 9)}{2}$	$y = 2x - 9$	$g(x) = \frac{x}{4} + 9$	$y = \frac{1}{2}(x + 4)$	$x \rightarrow 2x - 4$
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	<p>H20.2 I can calculate composite functions</p>	<p>$f(x) = 2x + 3$ $g(x) = x - 2$</p> <p>Using the functions above, find:</p> <p>a) $fg(x)$ b) $gf(x)$ c) $fg(4)$</p> <p>$f(x) = x^2$ $g(x) = 2x - 3$</p> <p>Using the functions above, find:</p> <p>a) $fg(x)$ b) $gf(x)$ c) $fg(6)$</p>								



Percentage	I can ...	Prove it!
	<p>H20.1 I can apply function notation</p>	<p>Match up corresponding functions.</p> <p>$f(x) = 2x^2 + 4$</p> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 2px;"> $f(x) - 7$ </div> <div style="border: 1px solid black; padding: 2px;"> $2(-x)^2 + 4$ </div> <div style="border: 1px solid black; padding: 2px;"> $2x^2 - 3$ </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <div style="border: 1px solid black; padding: 2px;"> $3f(x)$ </div> <div style="border: 1px solid black; padding: 2px;"> $3(2x^2 + 4)$ </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <div style="border: 1px solid black; padding: 2px;"> $f(3x)$ </div> <div style="border: 1px solid black; padding: 2px;"> $18x^2 + 4$ </div> <div style="border: 1px solid black; padding: 2px;"> $2x^2 + 4$ </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <div style="border: 1px solid black; padding: 2px;"> $f(-x)$ </div> <div style="border: 1px solid black; padding: 2px;"> $6x^2 + 12$ </div> </div> <div style="border: 1px solid black; padding: 2px; margin-top: 5px; width: fit-content; margin-left: auto;"> $2(3x)^2 + 4$ </div> <p>Some match to more than one answer.</p>
	<p>H20.4 I can apply transformation to graphs</p>	<p>On the grid below,</p> <p>a) sketch the graph of $y = f(-x)$</p> <p>b) sketch the graph of $y = -f(x) + 3$</p> <p>On the grid below,</p> <p>a) Sketch the graph of $2f(x)$</p> <p>b) Sketch the graph of $f(x - 4)$</p>
	<p>H7.2 I can calculate resultant vectors</p>	<p>ABCD is a parallelogram.</p> <div style="display: flex; align-items: center;"> <div style="margin-right: 20px;"> $\vec{AB} = \underline{\underline{\mathbf{p}}}$ $\vec{AD} = \underline{\underline{\mathbf{q}}}$ </div> </div> <p>Express each of the following in terms of \mathbf{p} and/or \mathbf{q}:</p> <div style="display: flex; justify-content: space-around;"> \vec{BA} \vec{BC} \vec{DC} \vec{AC} </div>



Percentage	I can ...	Prove it!
<p>62%</p>	<p>H7.1 I can calculate vector magnitude</p>	<p>Calculate the exact magnitude of the vectors below:</p>
<p>52%</p>	<p>I can multiply column vectors by scalars</p>	<p>$\vec{PQ} = \begin{pmatrix} 2 \\ -6 \end{pmatrix}$. Draw the following vectors.</p> <div style="display: flex; flex-wrap: wrap; justify-content: space-around; align-items: center;"> <div style="border: 1px solid orange; border-radius: 10px; padding: 5px; margin: 5px;">\vec{PQ}</div> <div style="border: 1px solid orange; border-radius: 10px; padding: 5px; margin: 5px;">$2\vec{PQ}$</div> <div style="border: 1px solid orange; border-radius: 10px; padding: 5px; margin: 5px;">$-\vec{PQ}$</div> <div style="border: 1px solid orange; border-radius: 10px; padding: 5px; margin: 5px;">$3\vec{QP}$</div> <div style="border: 1px solid orange; border-radius: 10px; padding: 5px; margin: 5px;">$\frac{1}{2}\vec{PQ}$</div> </div>



Key Words:

- Vector
- Scalar
- Magnitude
- Translate
- Function
- Inverse
- Composite
- Gradient
- Iteration
- Sketch
- Approximate
- Estimate
- Solution

