

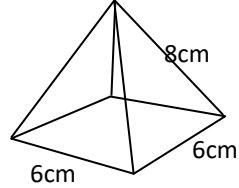
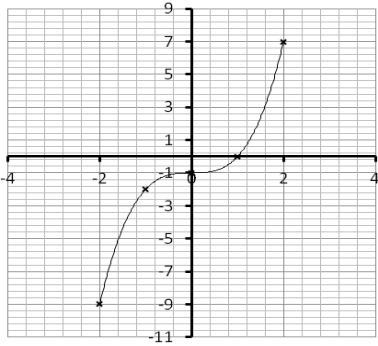
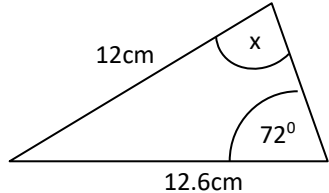
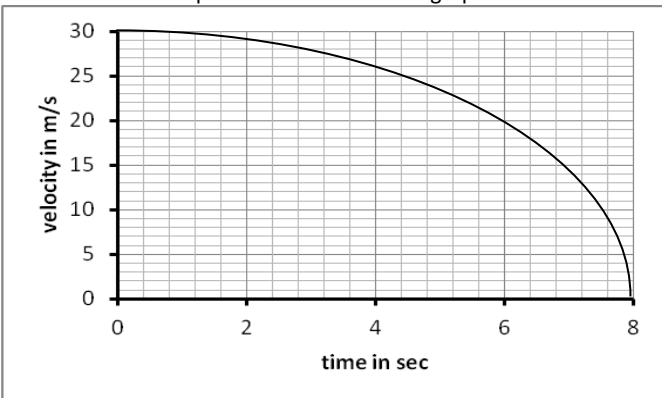
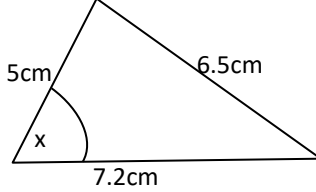
Maths Key Skills

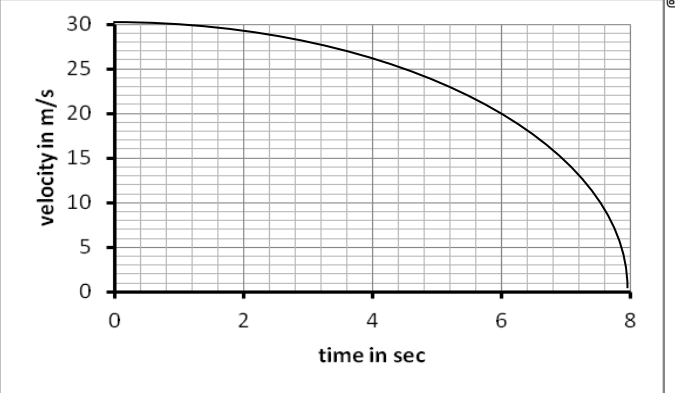
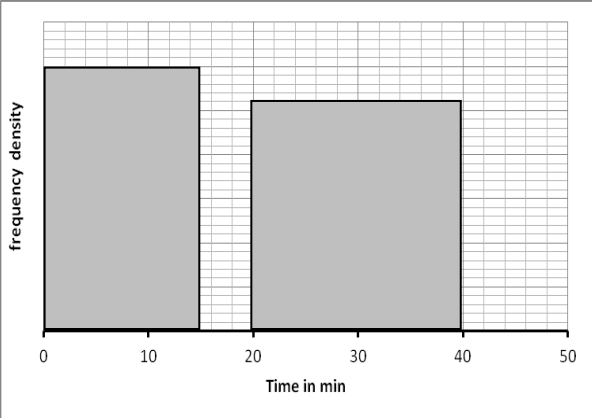
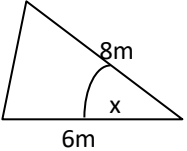
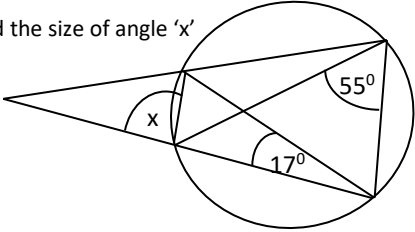
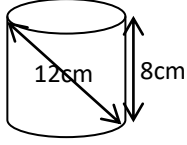
Stage 11: Skill Check 15

Name:

Date:

Class/Group:

A: Number & Algebra		B: Algebra, Proportion, Geometry & Measure		C: Geometry & Measure & Statistics	
1. Simplify: $6\sqrt{12} \div 2\sqrt{3}$	11:1	11. Make (x) the new subject of : $w = \frac{3x}{xy+1}$	11:12	21. Work out the angle between the face and base. (correct to 3sf)	11:26
2. Rationalise & simple: $\frac{6}{\sqrt{8}}$	11:2	12. This is the graph of $y = \tan x$ $\tan 45^\circ = 1$; give another angle for which $\tan(\) = 1$	11:14		
		13. This is the graph of $y = f(x)$. Sketch on the grid: $y = f(x+1)$	11:15		
3. A bag contains 2kg of flour (to nearest 100g). Each cake needs 180g (to nearest 10g). Work out the maximum number of cakes that can be made.	11:3			22. Find the angle 'x'? (1dp)	11:27
4. Simplify the following fraction: $\frac{2x^2 - 11x + 5}{4x^2 - 1}$	11:4	14. Estimate & interpret the area under the graph between 0 & 4s	11:16		
		15. Write down the equation of the tangent at (-2,5) on the circle with centre (2,-1)	11:18		
5. Solve: $\frac{x+1}{2} = \frac{3}{x-4}$	11:5			23. Find the angle 'x'? (1dp)	11:28
					

<p>6. If $f(x) = 2x-1$ and $g(x) = 5-3x$ Evaluate $g(f(x))$</p>	11:7	<p>16. Estimate & interpret the gradient of the tangent at 6s.</p> 	11:20	<p>24.</p> $\overrightarrow{AB} = \frac{3}{4}(2\mathbf{a} - \mathbf{b})$ $\overrightarrow{CD} = 3(\mathbf{b} - 2\mathbf{a})$ <p>What can you deduce about these two vectors?</p>	11:29										
<p>7. Find the turning point of: $y = x^2 - x - 1$</p>	11:8														
<p>8. Solve by completing the square: $x^2 + 8x + 5 = 0$ (Write down the EXACT values)</p>	11:9	<p>17. $4x^2 + 5x - 8 = 0$ can be solved using the iteration formula:</p> $x_{n+1} = \sqrt{\frac{8-5x_n}{4}}$ <p>Correct to 2dp Start with $x_1 = 1$ & work out an approximation for x by finding x_5</p>	11:21	<p>25. Complete the table & histogram:</p>  <table border="1" data-bbox="1570 1007 1966 1289"> <thead> <tr> <th>Time(min)</th> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td>$0 < t \leq 15$</td> <td>90</td> </tr> <tr> <td>$15 < t \leq 20$</td> <td>20</td> </tr> <tr> <td>$20 < t \leq 40$</td> <td></td> </tr> <tr> <td>$40 < t \leq 50$</td> <td>24</td> </tr> </tbody> </table>	Time(min)	Frequency	$0 < t \leq 15$	90	$15 < t \leq 20$	20	$20 < t \leq 40$		$40 < t \leq 50$	24	11:30
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$0 < t \leq 15$	90														
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<p>9. To solve: $5x^2 - x = 2$ by formula. Give answers in surd form.</p>	<p>11:10</p> $\boxed{} \pm \sqrt{}$ $\boxed{}$	<p>18. The area of the triangle is 15m^2. (2sf) Work out the angle x (Correct to 2sf)</p>  <p>19. Find the size of angle 'x'</p> 	11:22												
<p>10. Write down the solution set for: $(x+7)(x+3) > 0$</p>	11:11	<p>20. Work out the diameter of the cylinder (give answer in simplified surd form)</p> 	11:23												
<p>Total (A)</p>		<p>Total (B)</p>		<p>Total (C)</p>											
<p>Test Total (A+B+C)</p>		<p>R (0-9)</p>	<p>Y (10-19)</p>	<p>G (20-25)</p>											