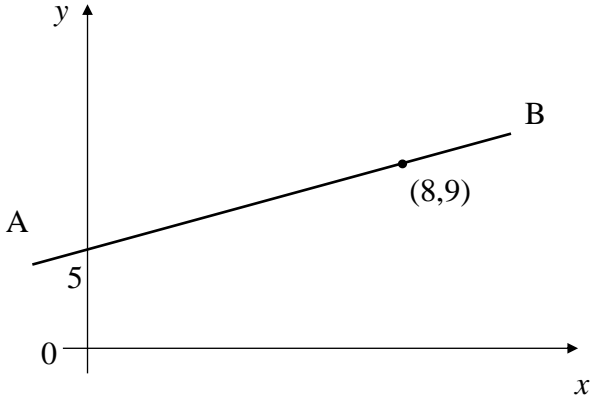
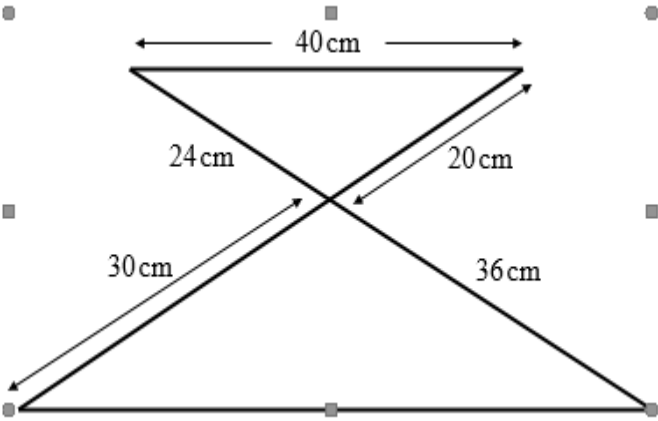
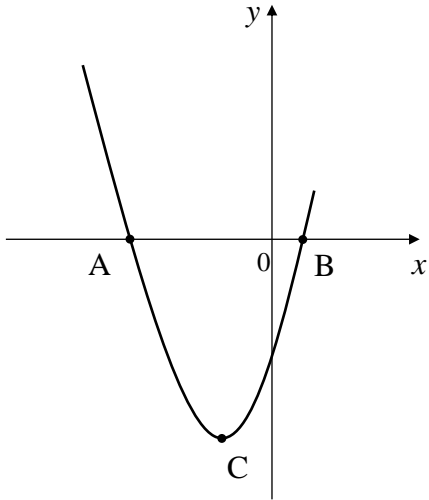
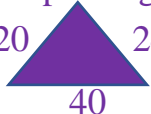



	November Non-Calculator – Revision 1	30
1	Multiply out the brackets and collect like terms $(2x + 3)(5x - 1)$	2
2	Calculate $3\frac{1}{5} \times 1\frac{1}{4}$	2
3	<p>The percentage marks of a group of Nat 5 students in their November A/B test is listed below</p> <p style="text-align: center;">43 48 54 56 58 59 59 62 63 69 72 73</p> <p>(a) Calculate: (i) the median; (ii) the semi-interquartile range.</p> <p>After this test the teacher decides to run some extra study support classes to prepare for the next assessment in January.</p> <p>In the January prelim the median result is 65% and the semi-interquartile range is 9.</p> <p>(b) Make two appropriate comment comparing the marks in the November and January tests.</p>	1 3 2
4	<p>A function is given as $f(x) = 10 - 2x$</p> <p>(a) Evaluate $f(-2)$</p> <p>(b) If $f(t) = -6$, calculate a value for t</p>	1 2
5	<p>The line AB passes through the points (0,5) and (8,9)</p> <p>State the equation of the Line AB</p> 	3
6	Change the subject of the formula $F = \frac{t^2+b}{c}$ to b	2

<p>7</p>	<p>A flat wire frame is made from two similar triangle, the dimensions of the frame are shown below.</p>  <p>This frame is made from one single length of wire bent into this shape. Would a two metre length of wire be sufficient to construct this frame?</p> <p>Give a reason for your answer.</p>	<p>4</p>
<p>8</p>	<p>Express in the simplest form $2a^7 \times (3a^4)^2$</p>	<p>3</p>
<p>9</p>	<p>The diagram shows part of the graph of $y = x^2 + 6x - 16$</p>  <p>(a) Find the coordinates of A and B, the x-intercepts for the graph.</p> <p>(b) State the coordinates of the minimum turning point C.</p>	<p>3</p> <p>2</p>

Answers Non-Calculator Revision 1	
1	$(2x + 3)(5x - 1) = 10x^2 - 2x + 15x - 3 = \mathbf{10x^2 + 13x - 3}$
2	$3\frac{1}{5} \times 1\frac{1}{4} = \frac{16}{5} \times \frac{5}{4} = \mathbf{4}$
3	(a) $f(-2) = 10 - 2(-2) = 14$ (b) $10 - 2t = -6, 16 = 2t, \mathbf{t = 8}$
4	Median is 59%, lower quartile is 55 and upper quartile is 66, SIQR is $\frac{66-55}{2} = \frac{11}{2} = 5.5$ On average the marks were better in the January as the median mark is higher. However, the marks are less consistent in January as the SIQR is larger
5	Gradient is $m = \frac{4}{8} = \frac{1}{2}$ Equation is $\mathbf{y = \frac{1}{2}x + 5}$
6	$F = \frac{t^2+b}{c}, \quad Fc = t^2 + b, \quad Fc - t^2 = b \rightarrow \mathbf{b = FC - t^2}$
7	<div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>Top triangle</p>  <p>20 24 40</p> </div> <div style="text-align: center;"> <p>bottom triangle</p>  <p>30 36 40</p> </div> <div style="text-align: right;"> <p>$SF = \frac{30}{20} = \frac{3}{2}$, missing side is $40 \times \frac{3}{2} = 60\text{cm}$ Sum of the sides is 210 cm or 2.1 m 2.1m > 2 m, so 2m is not sufficient</p> </div> </div>
8	$2a^7 \times (3a^4)^2 = 2a^7 \times 9a^8 = \mathbf{18a^{15}}$
9	<p>(a) $x^2 + 6x - 16 = 0$ $(x + 8)(x - 2) = 0$ A (-8, 0), B (2, 0) $x = -8$ and $x = 2$</p> <p>(b) For turning point $x = -3, y = -25, \mathbf{C (-3, -25)}$</p>