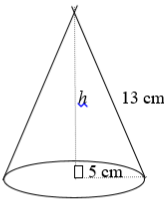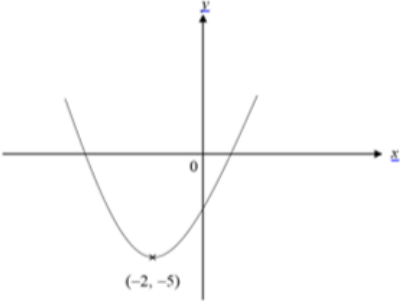|	**N Level Maths Strategies**
1.	Each topic will be tested once. For Simultaneous Equations it is easier for students to know how to key in using the calculator and work backwards. Meaning to say that they will get the answers of x and y first followed by working out the methods to earn method marks. Note that you will not be entitled any marks if you only present answers straight from the calculator without any workings,

	Solve the simultaneous equations.
	
	$$2x + 3y = 9$$
	$$4x - y = -17$$
	
	$2x + 3y = 9$ -----(1)
	$4x - y = -17$ -----(2)
	From (2) $y = 4x + 17$ ----- (3)
	Sub (3) into (1) $2x + 3(4x + 17) = 9$
	                $14x + 51 = 9$
	                    $x = -3$
	Sub $x = -3$ into (3) $y = 4(-3) + 17$
	                  $y = 5$

2.	Mensuration Do make use of the given formula on the second page of the exam paper. Go through the list of formula and note on the shapes that appear in the exam paper. In this case Paper 2 question 2, where it is obvious that cone is tested. Do list down in pencil somewhere beside the question of all formulas that is related to cone, including the given ones to have a better view.
	Answer ………………………………. [2] **2** **(a)** Figure 1 shows a solid cone with radius 5 cm and slant height 13 cm. 13 cm Figure 1 5 cm 2 Besides this, there will be conversion from a solid cone to cylinder. Always note that the volume is the same. Use the same volume of cone to work on another shape which is a cylinder to find its height.
3	Map and Area scale Students are expected to know this basic translation to convert km to m to cm very well. Also, to familiarize that left side of the ratio refers to the scale on the map. (map : actual)

Similar to conversion to area where they are require to square both sides to find a answer in squares.

e.g. (Map) 1cm = 2km (Actual)
(1cm)² = (2km)²
1cm² = 4km².

---

12 The distance between two towns on a map is 31.2 cm.

The scale of the map is 1 : 20 000.

(a) Find the actual distance between the towns. Give your answer in kilometres.

---

4. Sketch Graph
Ensure that you expand the equation and turn it to ax^2+bx+c format. Once it is in this format, key it in your calculator using the quadratic mode to find the 2 values of x on x-axis. Following that, you will be able to find out midpoint of x and the lowest/highest midpoint of y by substituting the x value in the equation.

---

10 (a) Sketch the graph of $y=(x+2)^2-5$.
Indicate on your sketch, the coordinates of the turning point.

(-2, -5)

---

5 When drawing quadratic graph, highlight the main equation. You will use this equation throughout the process of atempting the question. For the first question, do not wase time on this, simply use calculator to find p.
Part (b), plot the axis of the graph using the given instructions. You are advised to use french Ruler instead to draw a perfect looking curve. Remember to label your graph upon completion of drawing as it carries marks.
Answer all questions of the graph and lable them appropriately.

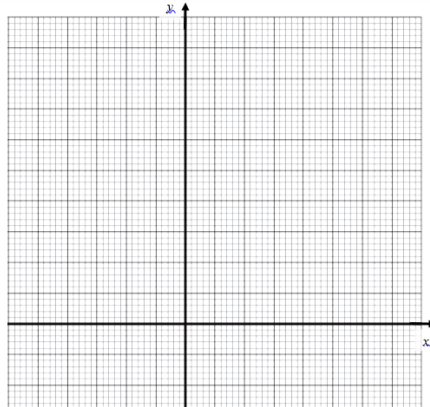**9** The variables x and y are connected by the equation $y = 2x^2 - 5x - 3$.

Some corresponding values of x and y are given in the table below.

x	-2	-1	0	1	2	3	4	5
y	p	4	-3	-6	-5	0	9	22

(a) Find the value of p.

Answer .... [1]

(b) Using a scale of 2 cm to represent 1 unit on the x-axis and 2 cm to represent 5 units on the y-axis, draw the graph of y against x for the range $-2 \le x \le 5$.

| 6. | Trigo Ratios

For right-angled triangles, candidates need to know the following.
TOA, $\tan \theta = opposite\ adjacent$
CAH, $\cos \theta = adjacent\ hypotenuse$
SOH, $\sin \theta = opposite\ hypotenus$ |

To prepare for exam.
1. It is true that you need to practice as many questions as possible. Make sure you cover all topics from sec 1 to sec 4. This is to ensure your basics are practiced correctly. It is advisable to start on graph questions as it carries more marks for you to score.

2. Rest early the night before. Have a good night rest the night before the Mathematics papers so that you have a clear mind to tackle those non-routine and real-world context questions which require more thinking and analysis.

3. Bring your Mathematical Instruments such as approved working calculators, mathematical sets (compass with sharp pencil, protractor and set squares), French curve ruler, straight ruler, eraser and black or blue pen. Skip the difficult questions and come back to them later.

All the best.