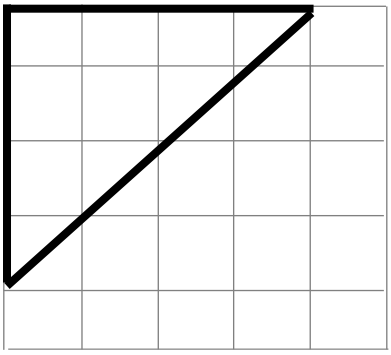
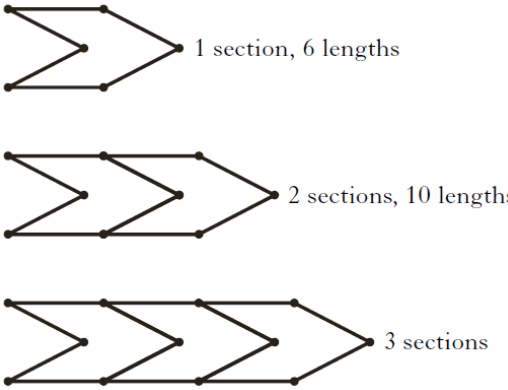
	Nat 4 Added Value – Paper 1C
1	Calculate (a) 4.27 + 1.832 – 3.5 (b) 4.53 x 7 (c) $\frac{4}{7}$ of 280
2	A pair of boots are normally price at £90. If they now in the sale with 20% off. (a) What is 20% of £90 (b) How much will the boots cost in the sale?
3	Jack works in an office. Shown below is his order for 25 boxes of folders. **Office Supplies** Blue Folders 7 boxes Green Folders 11 boxes Pink Folders 3 boxes Yellow Folders 4 boxes **Total 25 boxes** What is the probability that the first box Jack opens contains pink folders?
4	Pupils in a science class are growing seedlings. After 3 weeks growth the heights in mm are recorded as 63 55 58 70 62 76 83 84 53 What is the median height of the seedlings?
5	Enlarge this shape using a scale factor of 5/4 

Nat 4 Added Value Paper 2C

1 Naveen drives from Dumfries to Manchester.
A 21 mile part of his journey is affected by roadworks.
It takes him 445 minutes to drive this part of his journey.
Calculate his average speed for this part of his journey.
Give your answer in miles per hour.

2 Margaret is working on the design for a gold bracelet.
She is using gold lengths to make each section.



(a) Copy and complete the table below.

Number of sections (s)	1	2	3	4	5		10
Number of gold lengths (g)	6	10					

(b) Write down a formula for calculating the number of gold lengths, (g), when you know the number of sections (s).

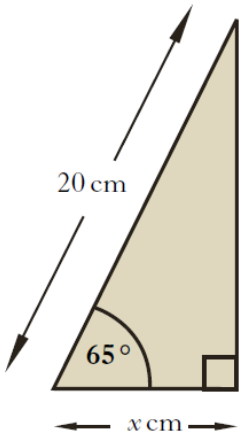
(c) Margaret uses 66 gold lengths to make a bracelet.
How many sections does this bracelet contain?

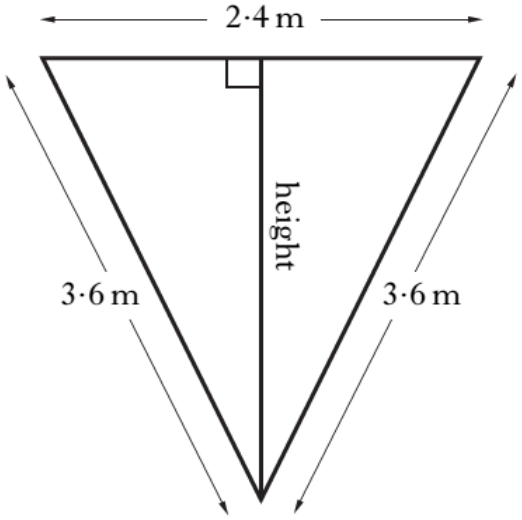
3 The shaded part of a garden light is in the shape of a right-angle triangle.

The sloping edge is 20 cm long.

The angle between the base and the sloping edge is 65 °.

Calculate x, the length of the base of the light

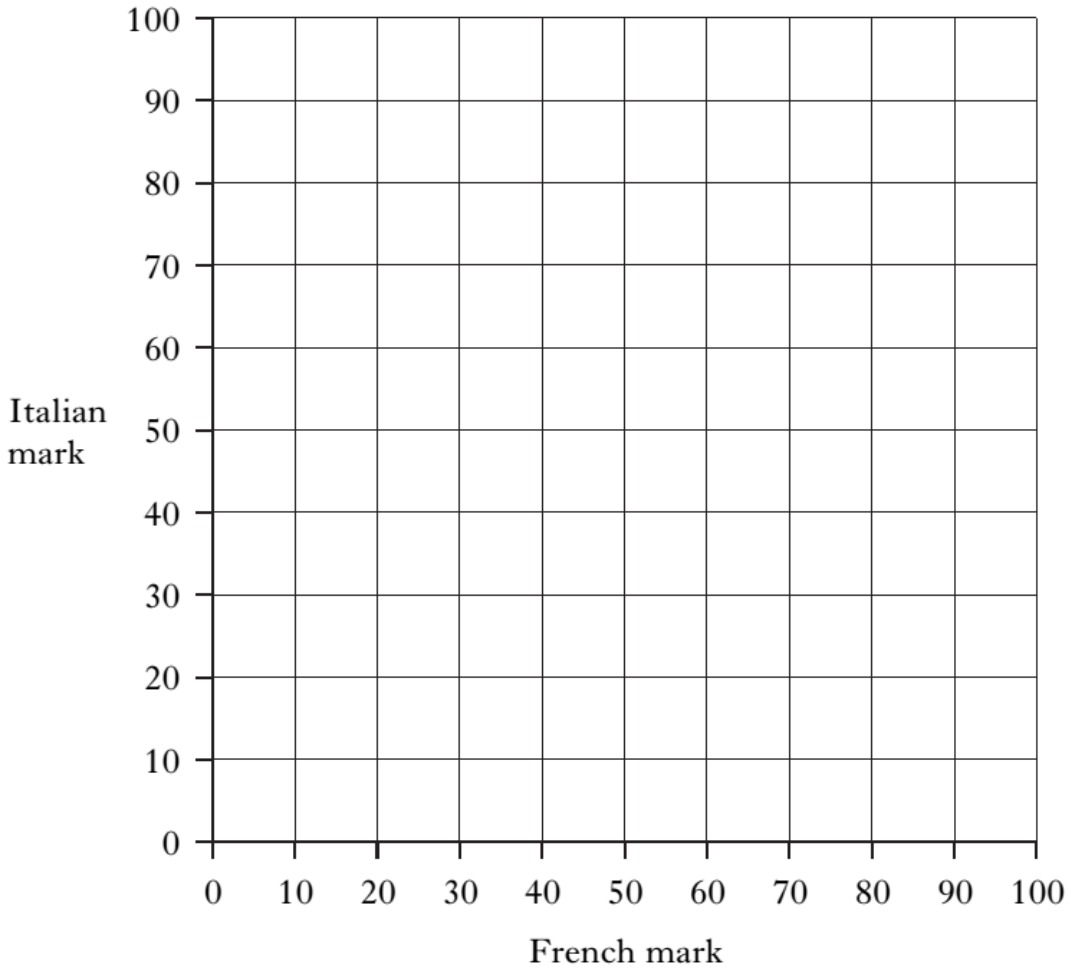


4	The dimensions of an isosceles triangle are shown below  Calculate the height of the triangle
5	A supermarket has a canopy over its entrance. The canopy has 6 semi-circles as shown below.  (a) If the diameter of each semi-circle is 4 metres, find the length of the curved edge of **one** of the semi-circles. (b) The Manager wants to attach fairy lights to the edge of the canopy  He has 40 metres of fairy lights. Is this enough for the whole canopy?
6	Solve algebraically $5m - 3 = 37 + m$.

7 The table below shows the marks scored by pupil in their French and Italian exams

Pupil	A	B	C	D	E	F	G	H
French Mark	15	23	50	38	40	42	70	82
Italian Mark	28	31	62	54	45	55	85	95

(a) Using these marks draw a scattergraph on the grid below



(b) Draw a line of best fit on the graph

(c) Estimate a pupil's Italian mark if their French mark is 65

Answers Paper 1C	
1	(a) 4.27 + 1.832 = 6.102 6.102 – 3.5 = **2.602** (b) 4.53 x 7 = **31.71** (c) 280 ÷7 = 40 40 x 4 = **160**
2	(a) 20% of £90 is **£18** (b) Sale price is £90 – 18 = **£72**
3	P(pink) = $\frac{3}{25}$
4	Ordered list 53 55 58 62 63 70 76 83 84 median is **63**
5	Shape is now 5 by 5 by 5 (diagonal)

Answers Paper 2C	
1	45 minutes = 0.75 hours Speed = $\frac{21}{45}$ = **28 mph**
2	(a) Number of sections (s): 1 2 3 4 5 ___ 10 Number of gold lengths (g): 6 10 **14** **18** **22** ___ **42** (b) $g = 4s + 2$ (c) $66 = 4s + 2$ → $64 = 4s$ → ***s* = 16**
3	Cos x = $\frac{A}{H}$ → Cos 65 = $\frac{x}{20}$ → 20 x cos65 = x base of light is **8.45 cm**
4	Form a right-angled triangle with correct dimensions 1.2 m height 3.6 m Use Pythagoras Theorem $c^2 = a^2 + b^2$ $3.6^2 = a^2 + 1.2^2$ $a^2 = 11.52$ $a = \sqrt{11.52}$ height is **3.4 cm**
5	(a) Circumference of one semi-circle is $\frac{\pi 4}{2}$ = **6.28 metres** (b) Six semi-circles is 37.68 metres 37.68 m < 40 m, so 40 metres is enough for the whole canopy
6	$4m - 3 = 37$ → $4m = 40$ → ***m* = 10**
7	(a) Points correctly plotted and line drawn (b) Pupil scored approximately 76 in the Italian exam