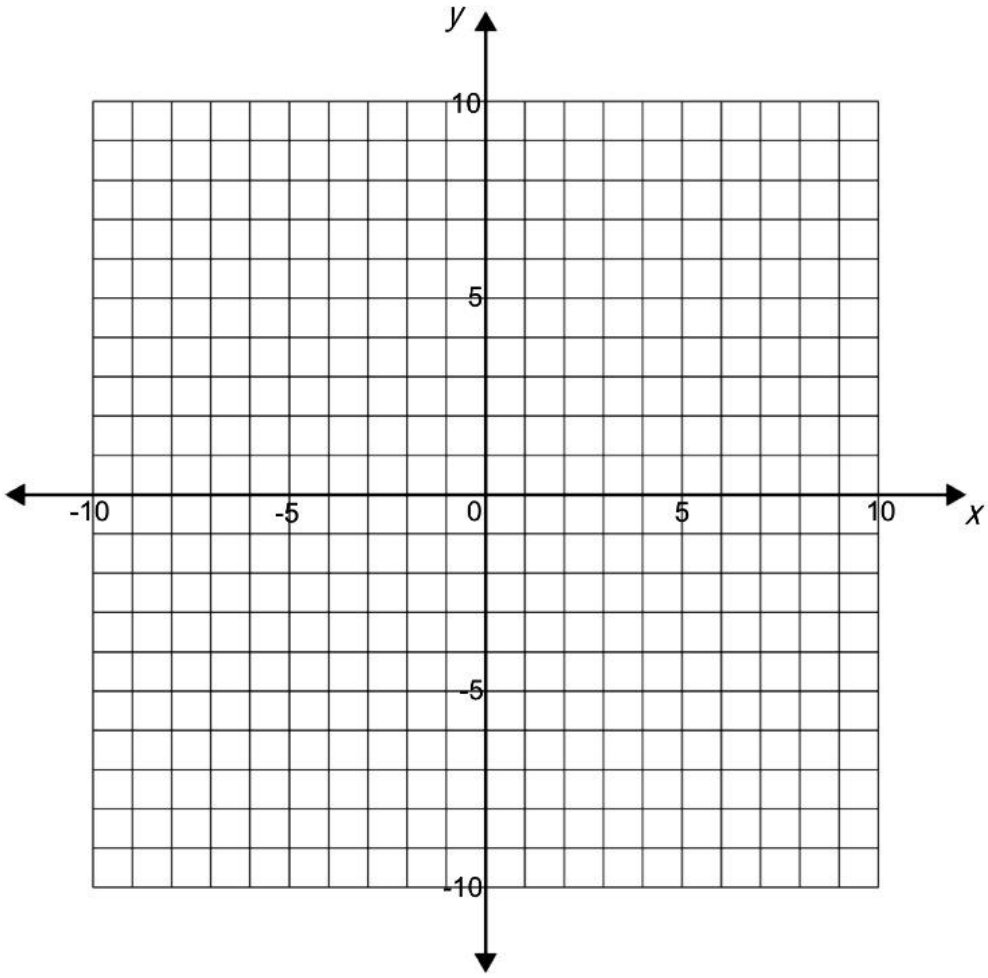
National 4 Relationships

Practice Test Two

(1) (a) In your jotter, neatly copy and complete the table below for $y = 2x - 3$

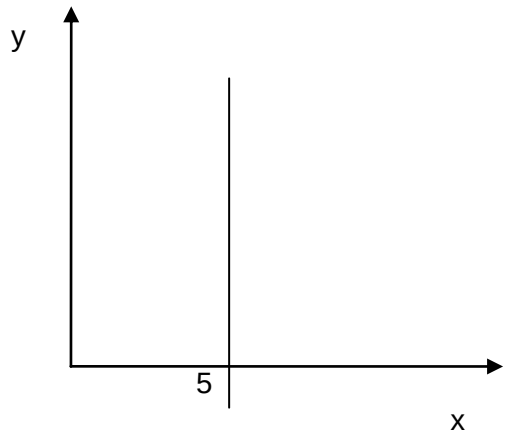
x	-2	-1	0	1	2	3	4
y							

(b) In your jotter, neatly draw a coordinate diagram as shown below.



(c) Plot the line $y = 2x - 3$ on your coordinate diagram

(2) Write down the equation of line below.



(3) Solve the following equation: $y + 4 = -3$

(4) The equation relating Distance, Speed and Time is:

$$D = S\,T$$

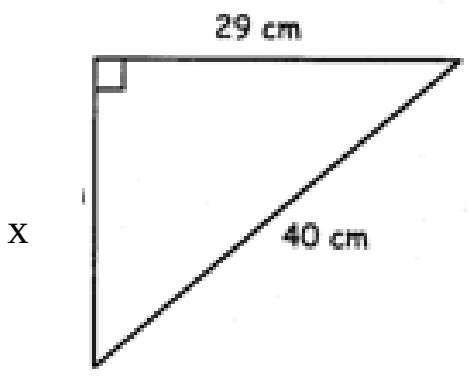
Change the subject of the formula to **S**.

(5) In Physics, the equation relating velocity, speed, acceleration and time is:

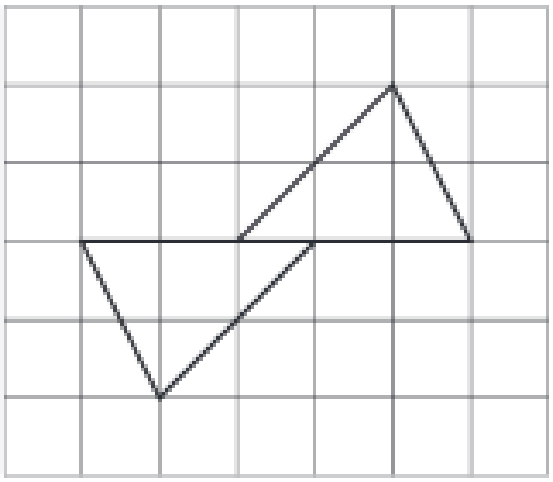
$$v = u + at$$

Change the subject of the formula to **a**.

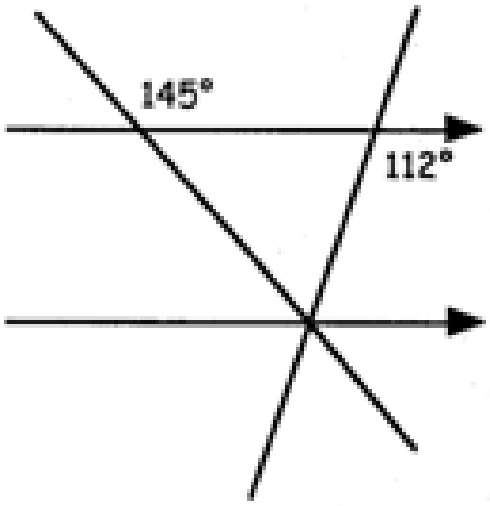
(6) Find x in the triangle



(7) In your jotter, neatly draw an enlargement of the given shape using a scale factor of **2**



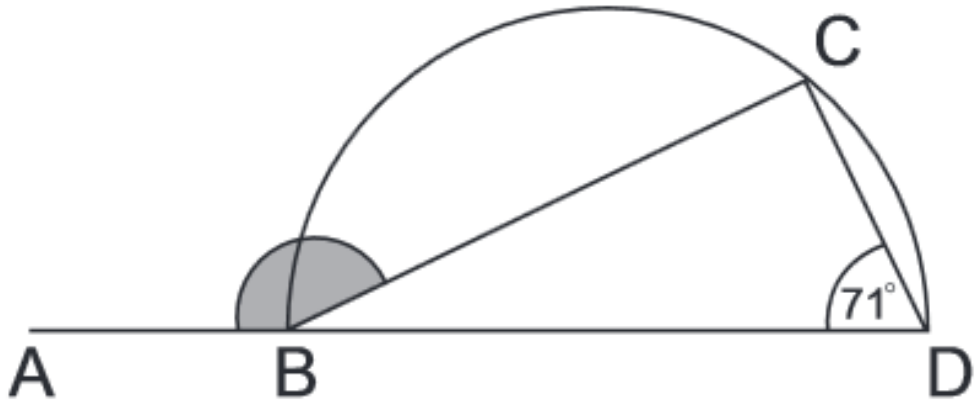
(8) In your jotter, neatly draw the diagram below and then calculate the size of all the missing angles. Write all the angles on your diagram.



(9) The diagram below shows a semi-circle with BD a diameter.

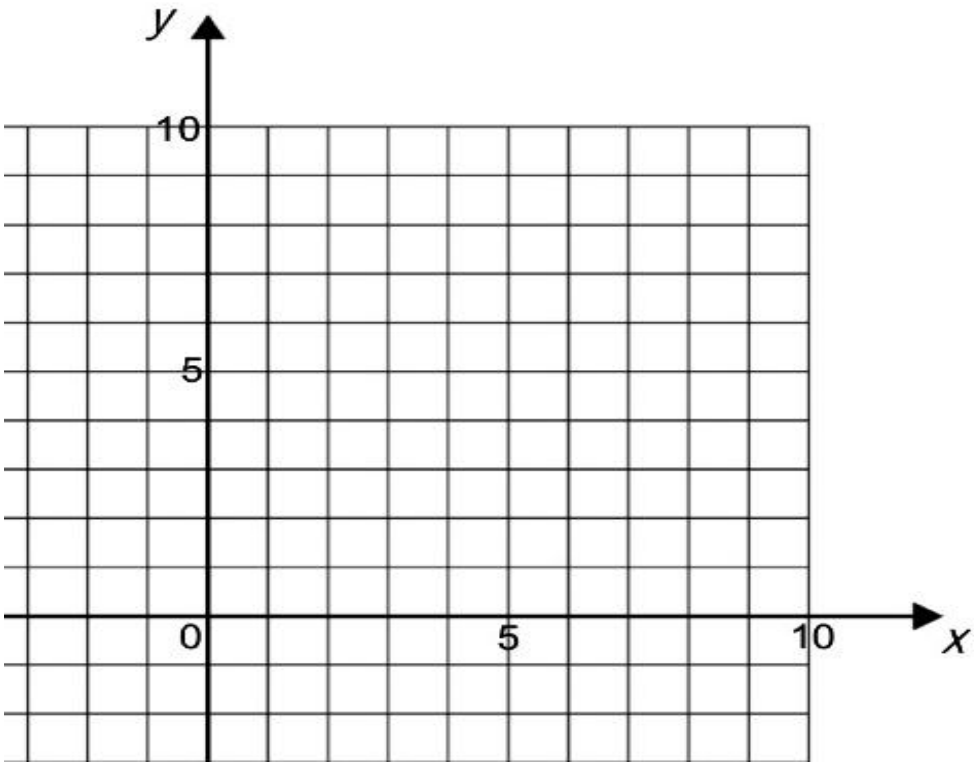
- C lies on the circumference
- CDB is 71°
- AD is a straight line

(a) In your jotter, neatly draw the diagram below



(b) Calculate shaded angle ABC

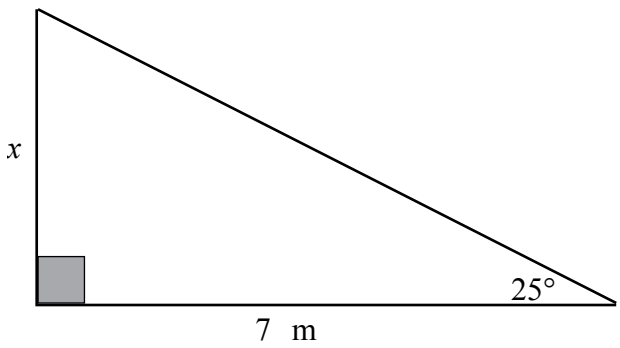
(10) (a) In your jotter, neatly draw the coordinate diagram as shown below



(b) Plot the points (1, 3) and (8, 4)

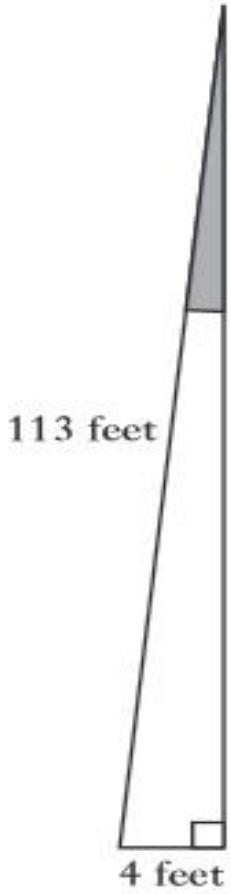
(c) Join up the line and then calculate the length of the line.

(11) Calculate the length of side *x* in the right-angled triangle below.



(12) Belfast has a leaning clock tower.

The leaning of the clock is show in the diagrams below



(a) In your jotter, draw the triangle on the left hand side as shown above

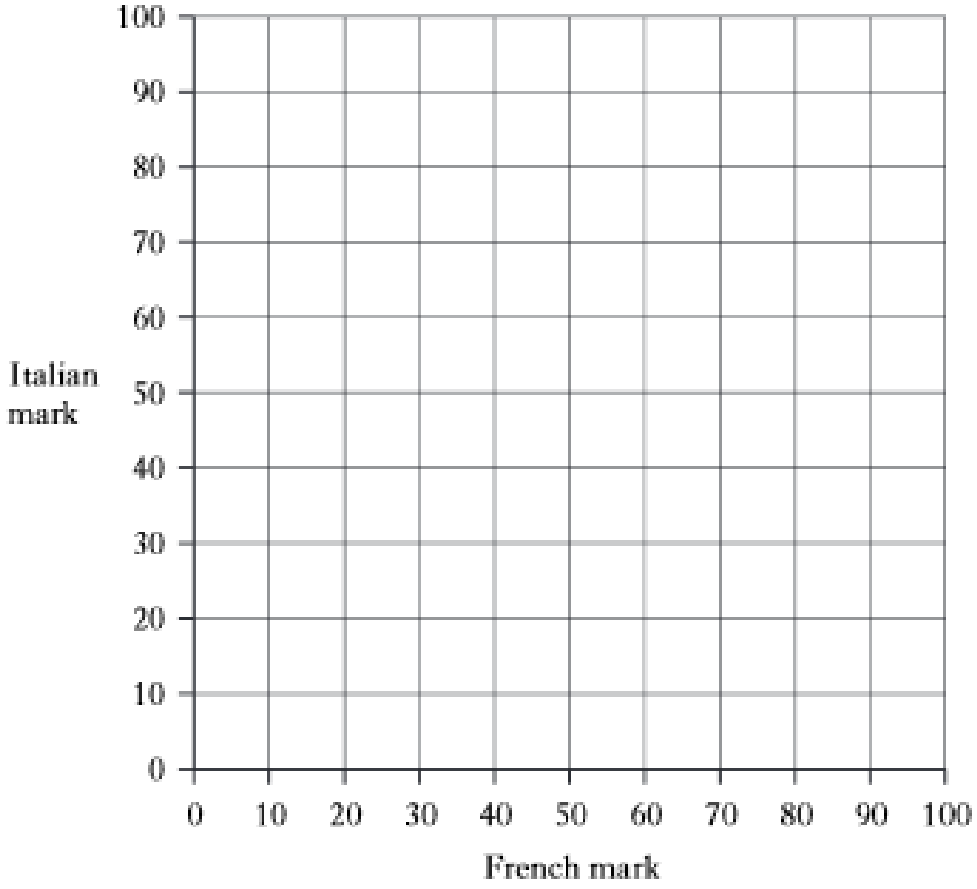
(b) Calculate the shaded angle

(c) For safety reasons angle x^{o} should be less than 3^{o} Can the clock tower be considered safe? (Justify your answer)

(13) The table below shows the marks scored by pupils in 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) In your jotter, neatly copy the grid below



(b) Draw a scatter graph of the marks in the table on your grid

(c) On your grid, draw a line of best fit

(d) A pupil who score 65 in his French exam was absent from his Italian exam. Use your best fitting line to estimate his Italian Mark.

(e) Ben scored 75 for his French exam. His teacher estimated that his mark for the Italian exam should be 55. Is this a reasonable estimate?