

PICK

NUMIX

Name:

.....

.....

Higher 7+

Paper 3

	Q	Topic	My Mark	Max Marks
Non Calculator	1			6
	2			4
Calculator	3			7
	4			7
	5			4
	6			6
				34

Revision list:

What I need to remember:

AJagger

Question 1

- (a) Write $\frac{5}{11}$ as a recurring decimal.

.....
[2]

- (b) Marco used his calculator to divide a 2-digit number by a 2-digit number. His calculator showed this display.

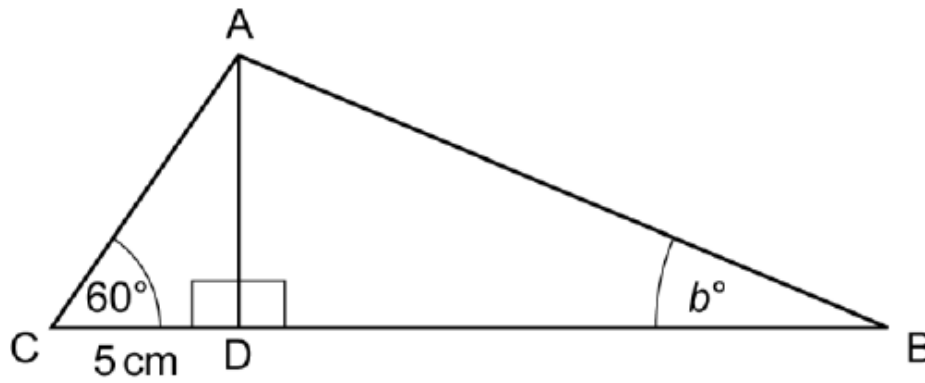
2.030303030

What calculation did Marco do?

.....
[4]

Question 2

In the diagram, $CD = 5 \text{ cm}$, angle $ACD = 60^\circ$ and $\sin b^\circ = 0.5$.



Not to scale

Find the ratio of the area of triangle ACD to the area of triangle BAD.

Question 3

(a) Factorise fully:

$$6xy - 12x^2$$

.....
[2]

(b) Factorise:

$$x^2 - 9$$

.....
[1]

(c) Factorise:

$$x^2 - 4x + 3$$

.....
[2]

(d) Factorise:

$$15x^2 + x - 2.$$

.....
[2]

Question 4

- (a)** Bethany says that $(2x)^2$ is always greater than or equal to $2x$.
Decide whether she is correct or not.
Show your working to justify your decision.

[3]

- (b)** Show that the mean of 5 consecutive numbers is always equal to the median of the 5 numbers.

[4]

Question 5

The region R is defined by these three inequalities, where k is an integer.

$$2y > x + 4$$

$$x + y \leq 5$$

$$x \geq k$$

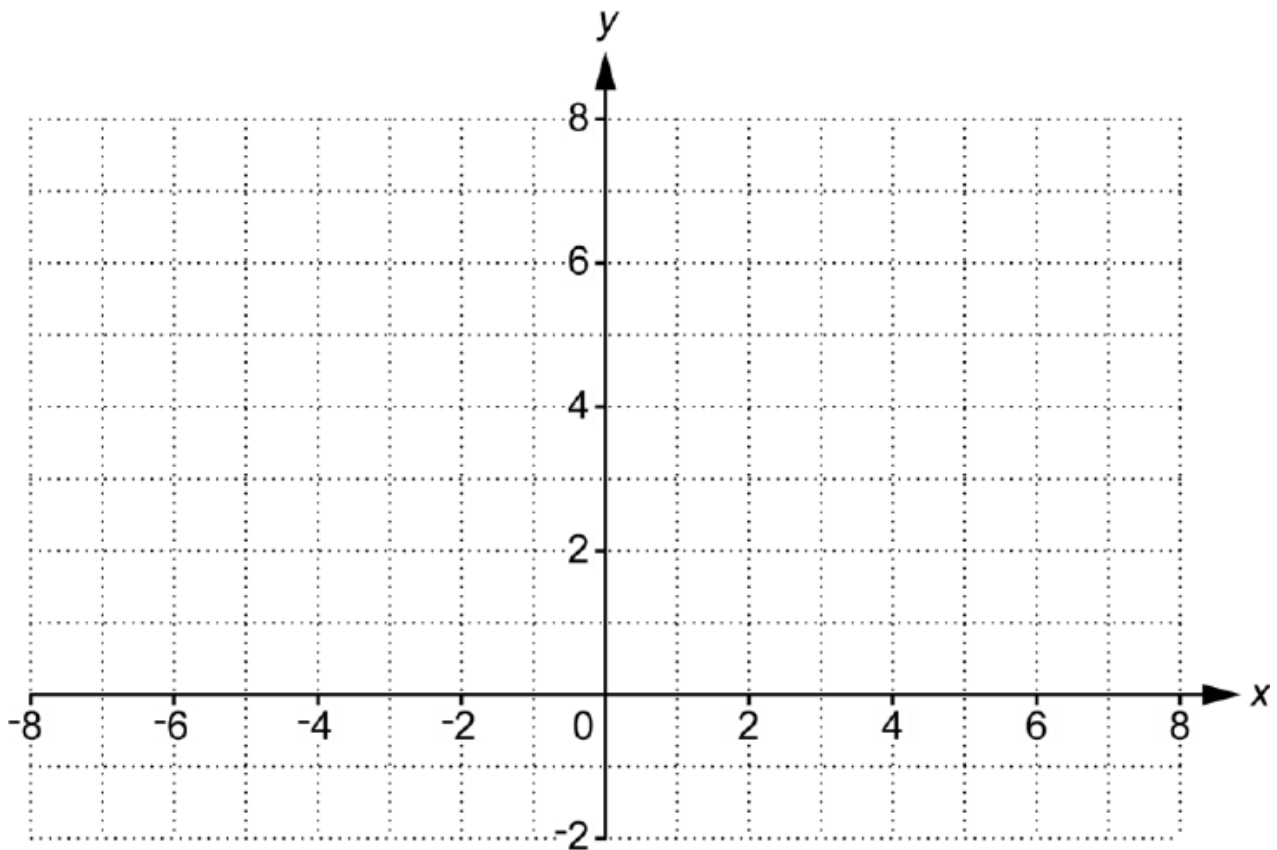
Point P has integer coordinates.

Point P lies in the region R.

There are 16 possible positions for point P.

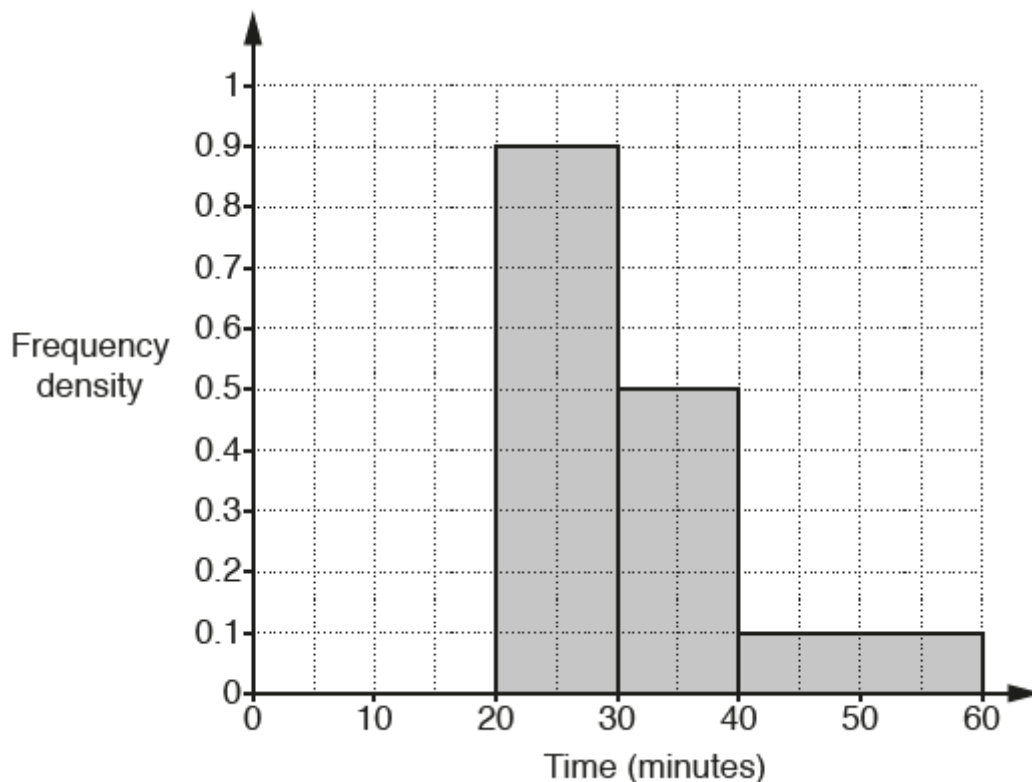
Find the value of k.

Use the grid to help you.



Question 6

Isobel gives a puzzle to some people and records how long they take to solve it. Some of her results are summarised in the histogram.



- (a) Four people took 20 minutes or less to solve it. Complete the histogram.

[2]

- (b) Work out the percentage of the people who took 30 minutes or more.

..... %
[4]