Name	Class

MATHS TEACHER HUB

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Area and Perimeter

(9 – 1) Topic booklet

Higher

These questions have been collated from previous years GCSE Mathematics papers.

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser.	Total Marks

Instructions

•Use **black** ink or ball-point pen.
•**Fill in the boxes** at the top of this page with your name, centre number and candidate number.
•Answer **all** questions.
•Answer the questions in the spaces provided
– *there may be more space than you need*.
•Diagrams are NOT accurately drawn, unless otherwise indicated.
•You must **show all your working out.**
•If the question is a **1H** question you are not allowed to use a calculator.
•If the question is a **2H** or a **3H** question, you may use a calculator to help you answer.

Information

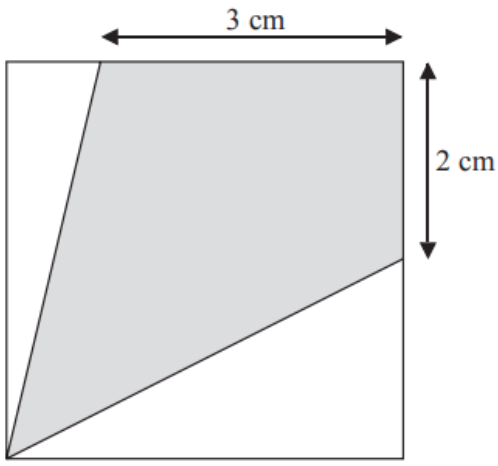
•The marks for **each** question are shown in brackets
– *use this as a guide as to how much time to spend on each question*.

Advice

•Read each question carefully before you start to answer it.
•Keep an eye on the time.
•Try to answer every question.
•Check your answers if you have time at the end.

Answer ALL questions
Write your answers in the space provided.
You must write down all the stages in your working.

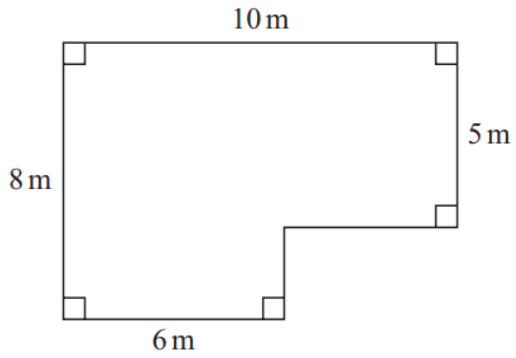
2 The diagram shows a square with perimeter 16 cm.



Work out the proportion of the area inside the square that is shaded.

(Total for Question 2 is 5 marks)

3 The diagram shows a plan of a floor.



Petra is going to cover the floor with paint.

Petra has 3 tins of paint.
There are 2.5 litres of paint in each tin.

Petra thinks 1 litre of paint will cover 10 m^2 of floor.

(a) Assuming Petra is correct, does she have enough paint to cover the floor?
You must show all your working.

(4)

Actually, 1 litre of paint will cover 11 m^2 of floor.

(b) Does this affect your answer to part (a)?
You must give a reason for your answer.

.....

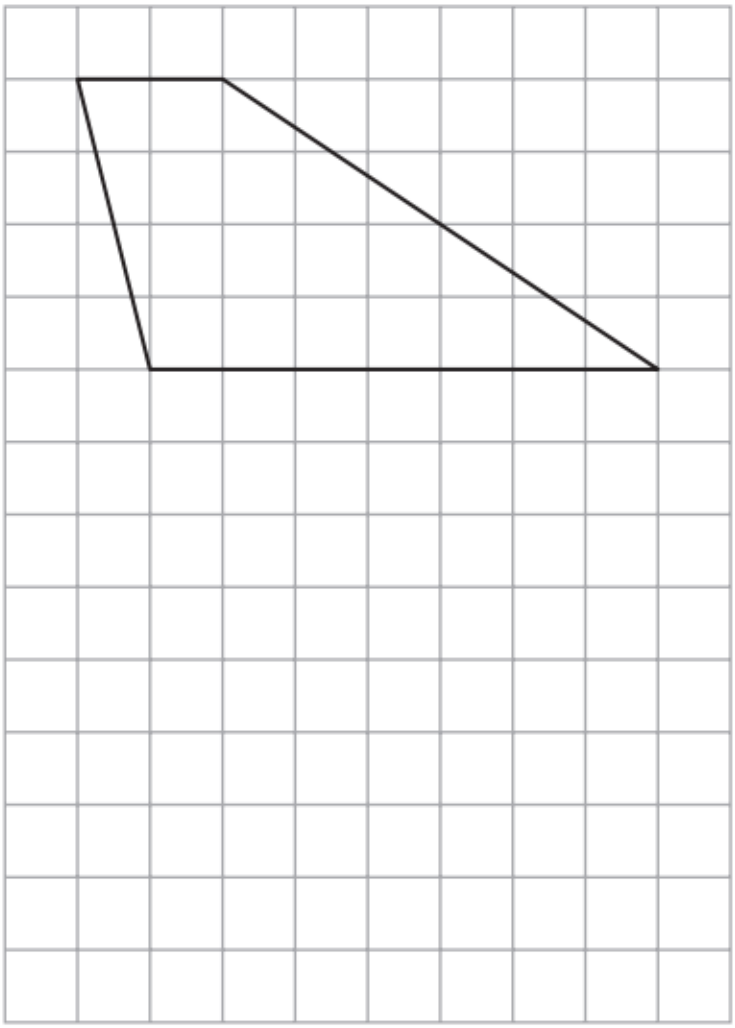
.....

.....

(1)

(Total for Question 3 is 5 marks)

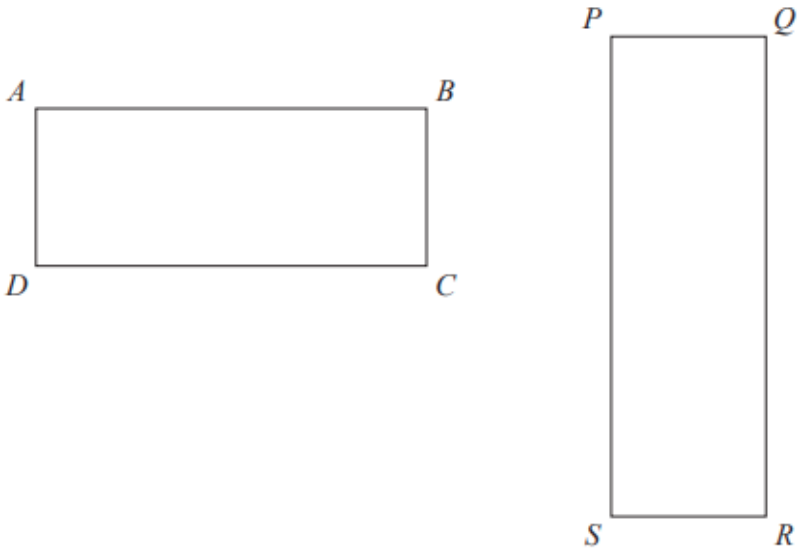
3 Here is a trapezium drawn on a centimetre grid.



On the grid, draw a triangle equal in area to this trapezium.

(Total for Question 3 is 2 marks)

7 Here are two rectangles.



$QR = 10\,\text{cm}$
$BC = PQ$

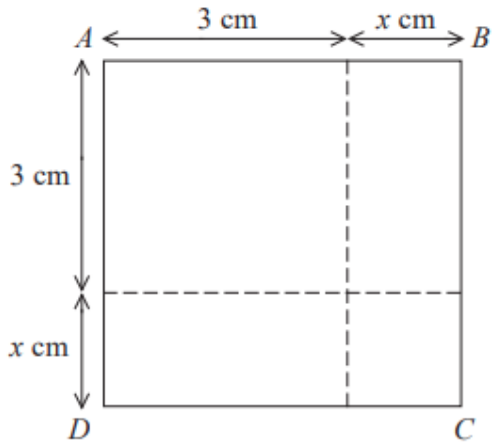
The perimeter of $ABCD$ is 26 cm
The area of $PQRS$ is $45\,\text{cm}^2$

Find the length of AB.

..... cm

(Total for Question 7 is 4 marks)

4

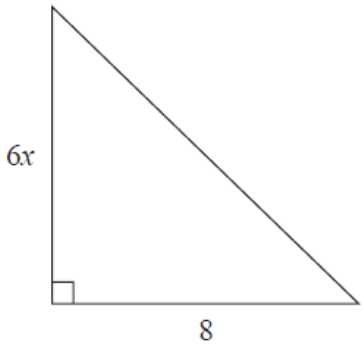


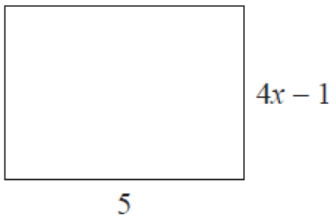
The area of square $ABCD$ is 10 cm^2.

Show that $x^2 + 6x = 1$

May 2017 – Paper 1H **(Total for Question 4 is 3 marks)**

5 Here is a triangle and a rectangle.





All measurements are in centimetres.

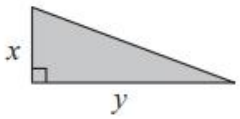
The area of the triangle is $10\,cm^2$ greater than the area of the rectangle.

Work out the value of x.

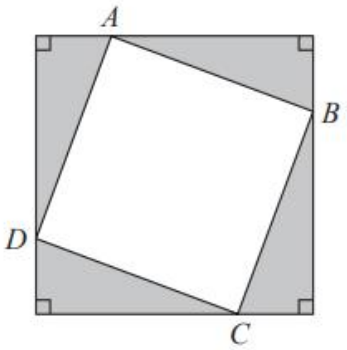
$x =$ .....

(Total for Question 5 is 4 marks)

7 Here is a right-angled triangle.



Four of these triangles are joined to enclose the square *ABCD* as shown below.



Show that the area of the square *ABCD* is $x^2 + y^2$

(Total for Question 7 is 3 marks)

11 The floor plan of a house is drawn using a scale of 1 : 50
On the plan, a room in the house has a floor area of 48 cm^2

Work out the real area of the floor of this room.
Give your answer in m^2

..... m^2

(Total for Question 11 is 3 marks)