

8300

GCSE MATHEMATICS

Foundation and Higher tier – Questions by Topic

Geometry

Area and perimeter – Finding areas and perimeters using grids

v1.0

Name _____

Materials

For this paper you must have:

- Mathematical instruments
- A calculator

Information

- The marks for questions are shown in brackets

Advice

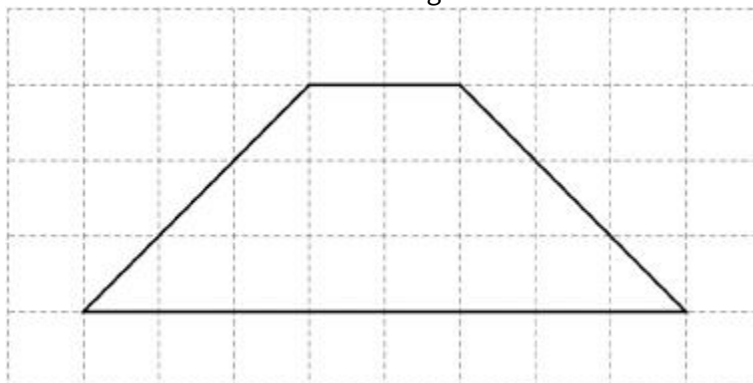
- In all calculations, show clearly how you work out your answer

For questions 1 to 3 you must **NOT** use a calculator.



Q1.

A different quadrilateral is drawn on a centimetre grid.



By counting squares, work out the **area** of the quadrilateral.

(Total 1 mark)

Q2.

One side of a rectangle is drawn on this centimetre grid.

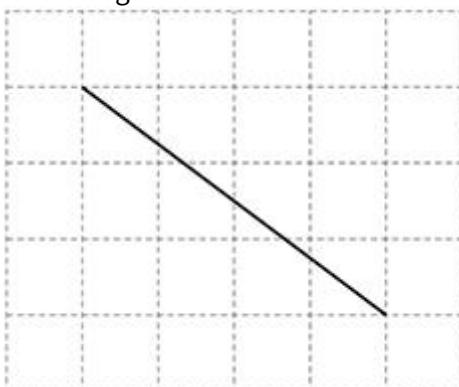


Complete the rectangle so that it has a **perimeter** of 20 cm

(Total 1 mark)

Q3.

A diagonal of a rectangle is drawn on a centimetre grid.
The sides of the rectangle are on the grid lines.



Work out the area of the rectangle.

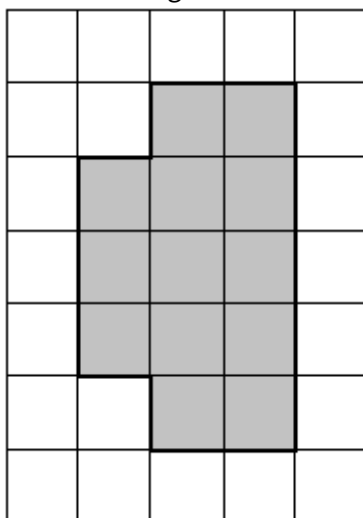
(Total 2 marks)

For questions 4 to 11, you may use a calculator.



Q4.

Work out the shaded area on the centimetre grid.



State the units of your answer.

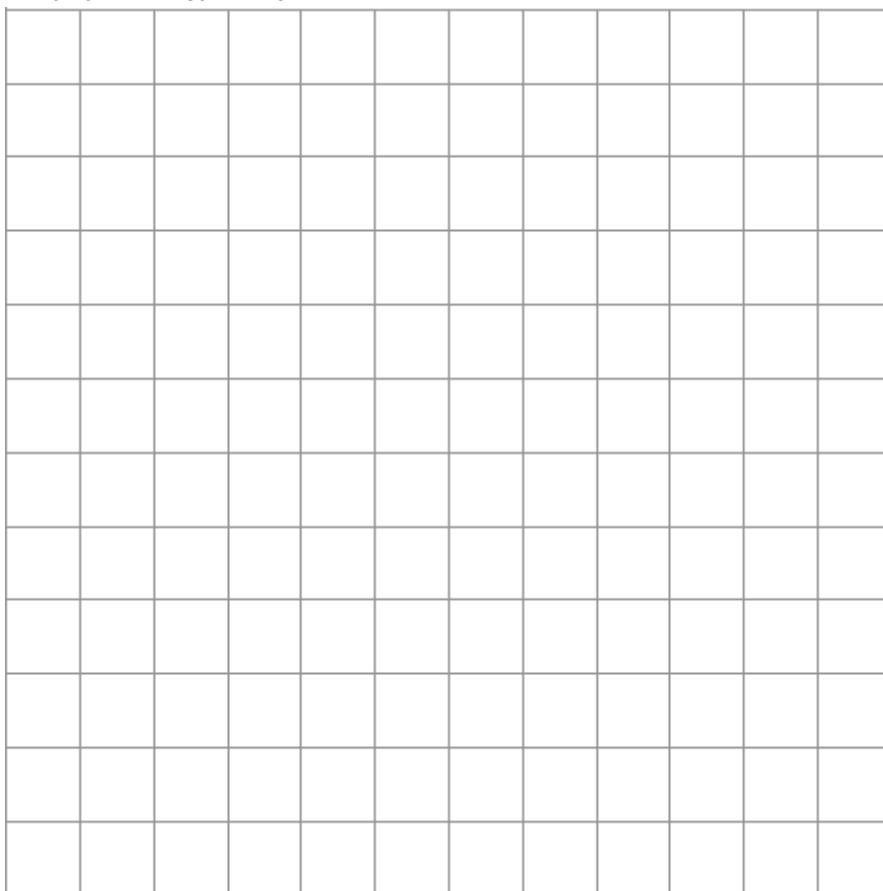
(Total 3 marks)

Q5.

On this centimetre grid, draw **one** rectangle with

Perimeter = 20 cm

and Area = 24 cm²



(Total 2 marks)

Q6.

Here is a centimetre grid.



On the grid, draw a rectangle with

Perimeter = 18 cm

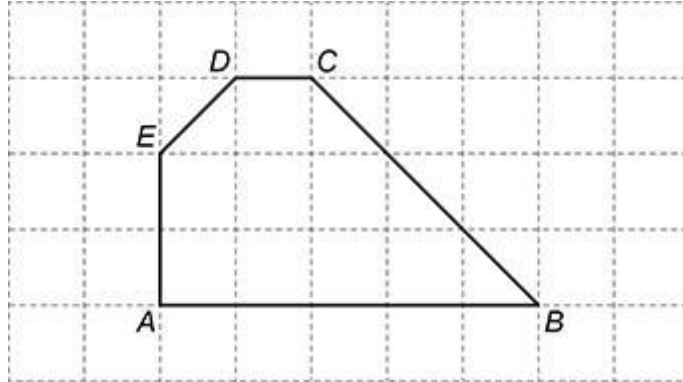
and

Area = 20 cm²

(Total 2 marks)

Q7.

Shape $ABCDE$ is drawn on a centimetre grid.



On this centimetre grid,

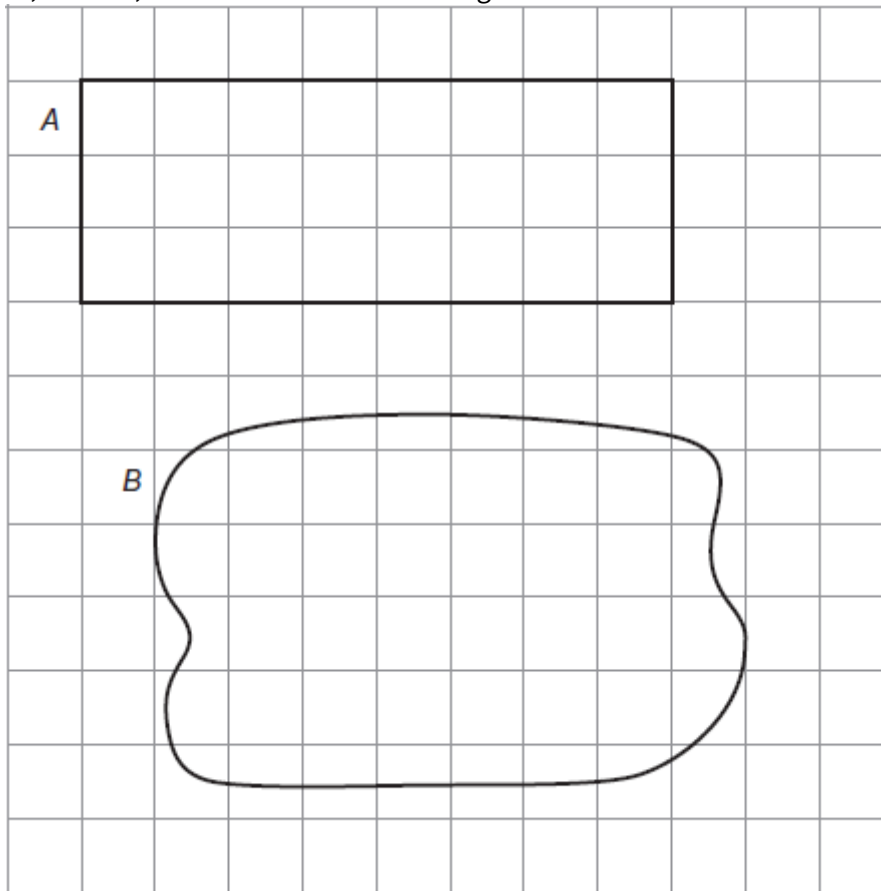
draw a **rectangle** with the same area as shape $ABCDE$.



(Total 2 marks)

Q8.

Two shapes, *A* and *B*, are drawn on a centimetre grid.



Which of the two shapes has the greater area?

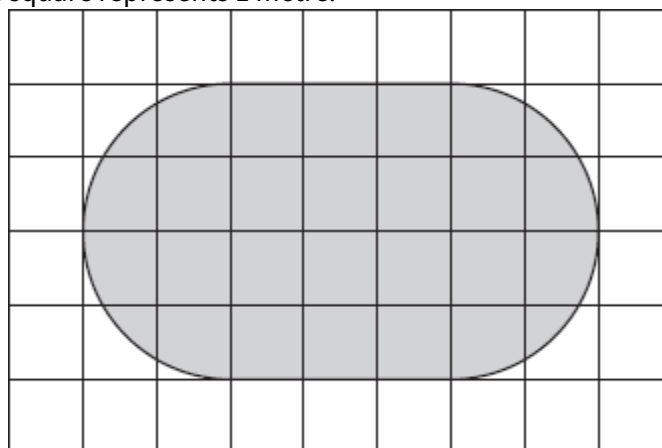
You **must** show your working.

(Total 3 marks)

Q9.

Jack drew this sketch of his lawn on squared paper.

The length of each square represents 1 metre.

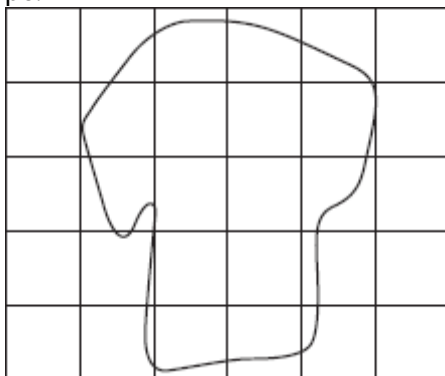


Work out an estimate for the area of his lawn.

(Total 3 marks)

Q10.

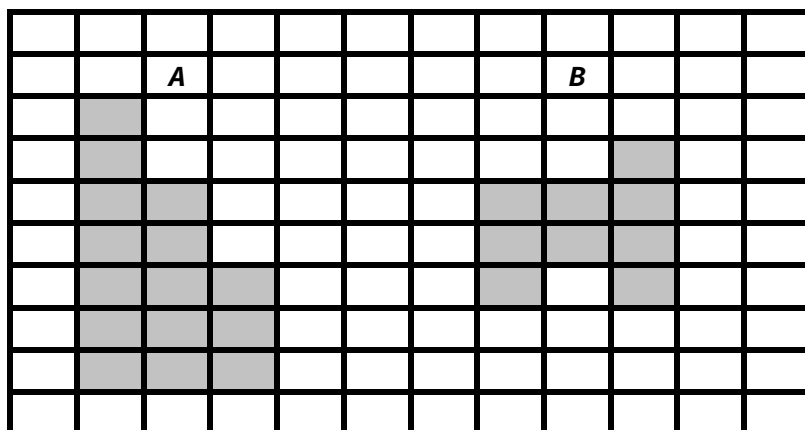
The shape below is drawn on a centimetre grid.
Estimate the area of the shape.



(Total 2 marks)

Q11.

Shapes *A* and *B* are drawn on the rectangular grid.



The area of shape *A* is 75 cm^2
Work out the area of shape *B*.

(Total 4 marks)

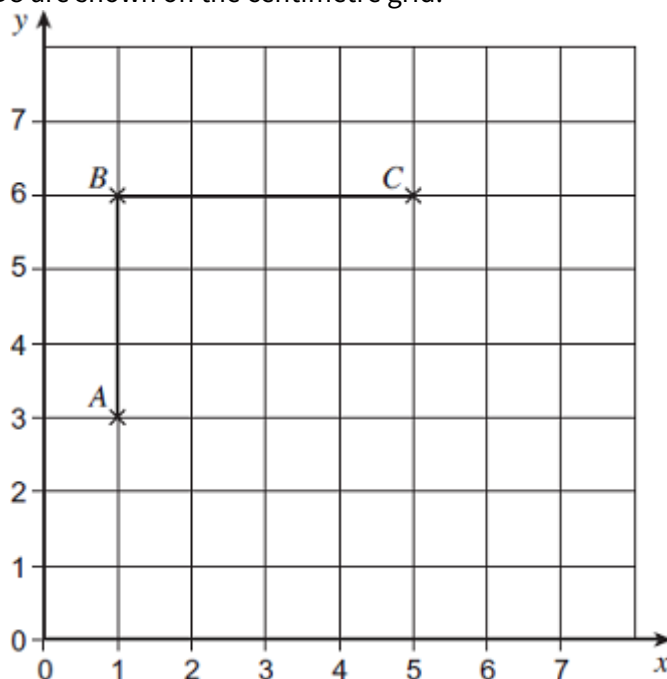
Area and perimeter – Find areas and perimeters using grids – Cross topic questions

For questions 12 to 14 you must **NOT** use a calculator.



Q12.

Lines AB and BC are shown on the centimetre grid.



- (a) Write down the coordinates of point A .
- (b) A , B and C are three corners of a rectangle $ABCD$.
Complete the rectangle on the grid.
- (c) Work out the perimeter of rectangle $ABCD$.

(1)

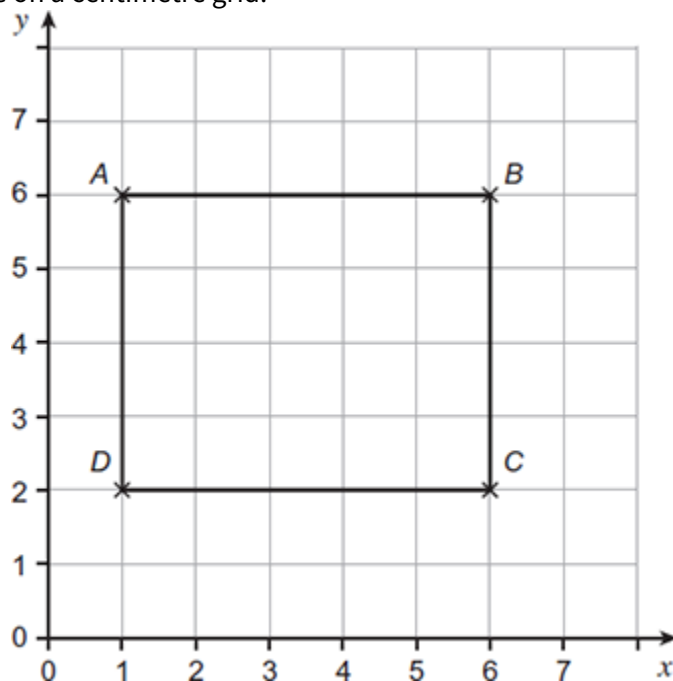
(1)

(2)

(Total 4 marks)

Q13.

$ABCD$ is a rectangle on a centimetre grid.



(a) Write down the coordinates of A .

(1)

(b) Mark the midpoint of BC with a cross.

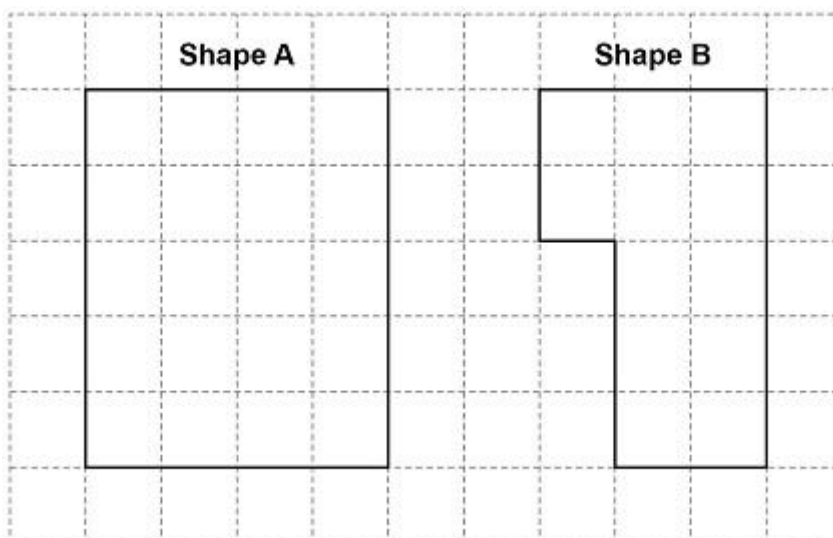
(1)

(c) Work out the perimeter of the rectangle.

(2)

(Total 4 marks)

Q14.



Work out area of Shape A : area of Shape B
Give your answer in its simplest form.

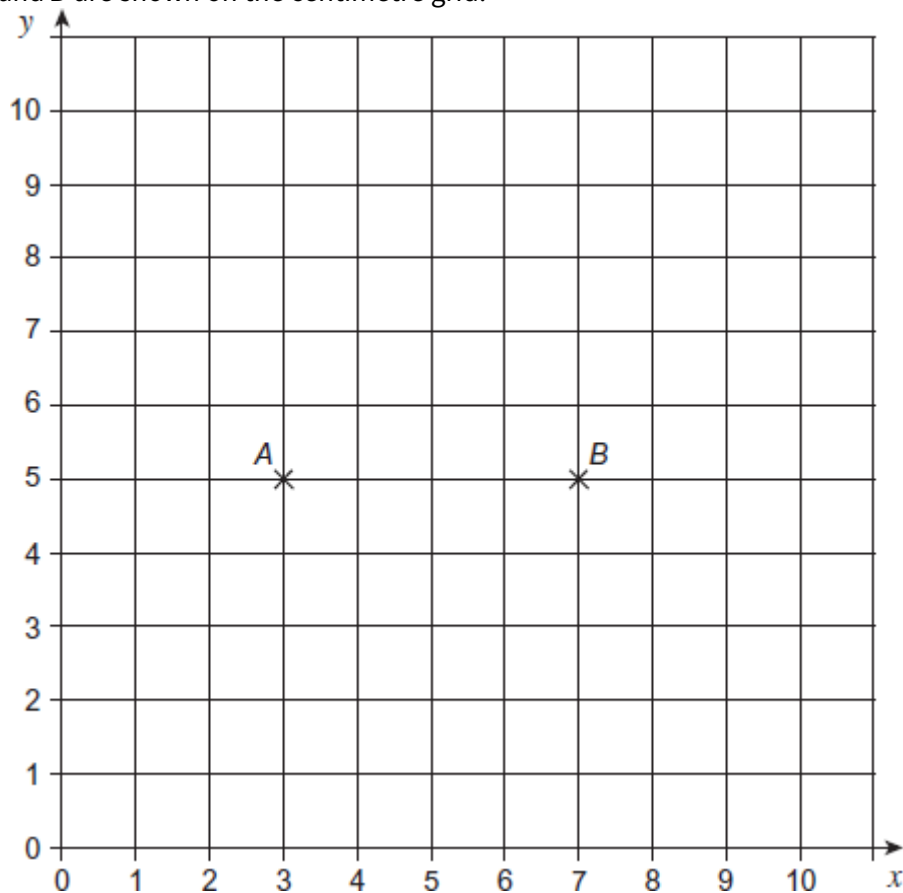
(Total 2 marks)

For the rest of the questions, you may use a calculator.



Q15.

Points *A* and *B* are shown on the centimetre grid.



- (a) Draw a rectangle *ABCD* on the grid with area 12 cm^2 .

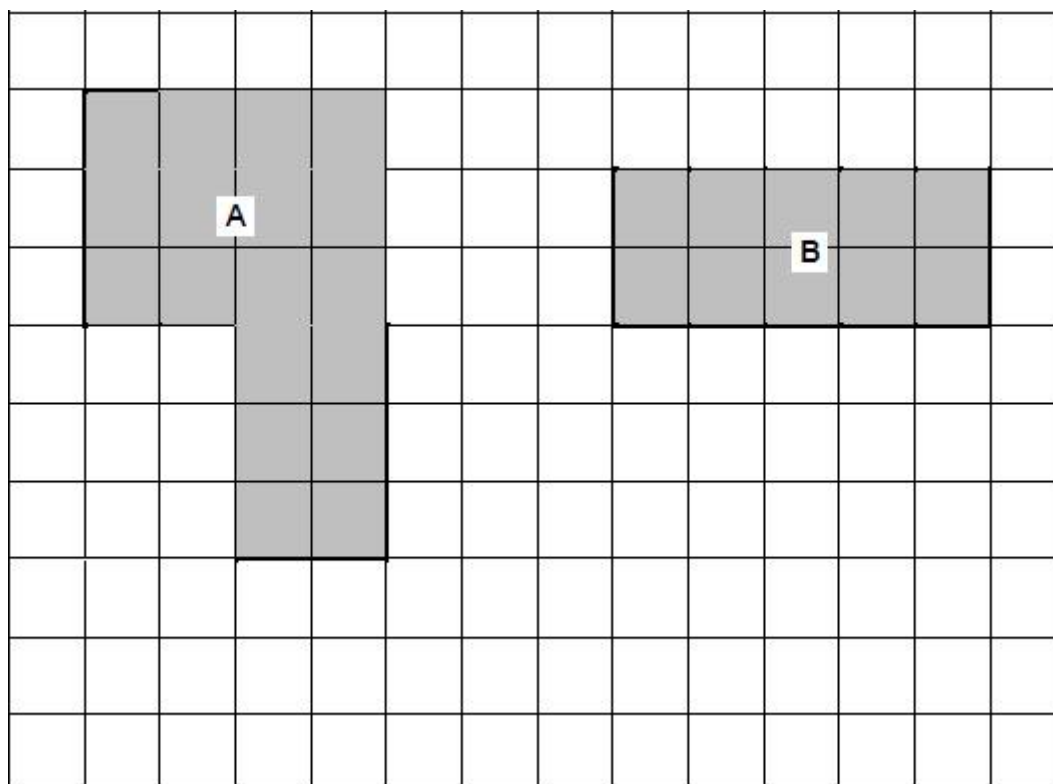
(2)

- (b) Write down the coordinates of point *C* and point *D*.

(2)

(Total 4 marks)

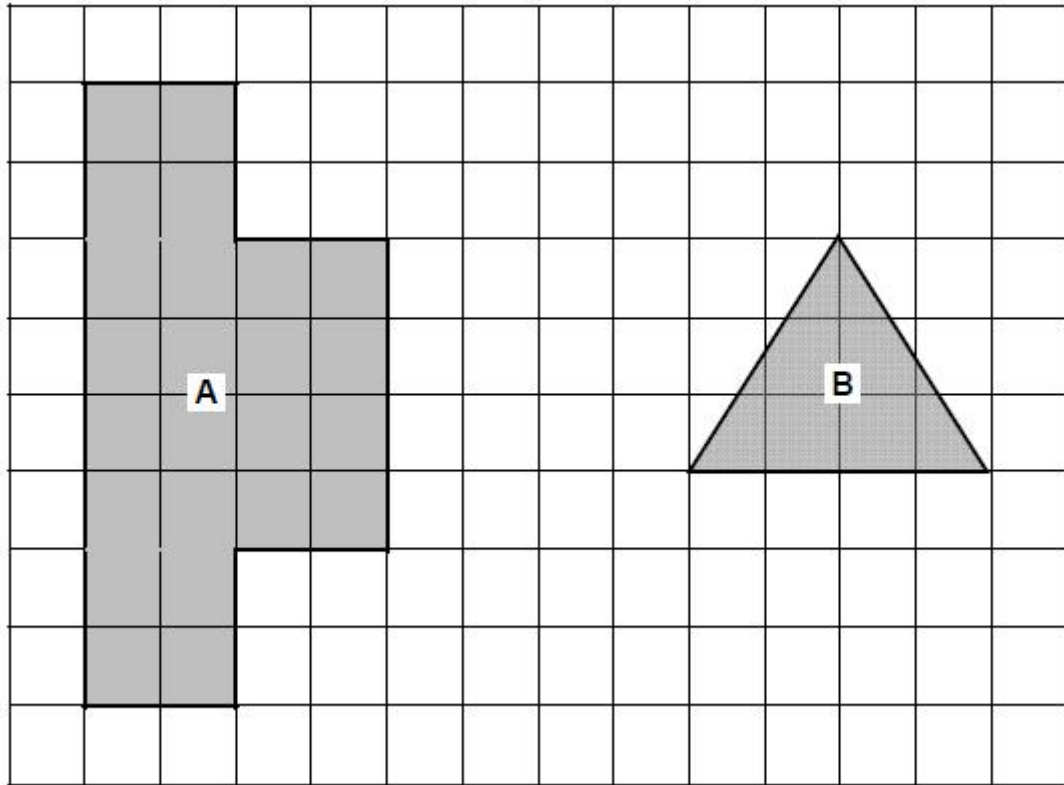
Q16.



Work out perimeter of shape A : perimeter of shape B
Give your answer in its simplest form.

(Total 3 marks)

Q17.



Work out area of shape A : area of shape B
Give your answer in its simplest form.

(Total 3 marks)