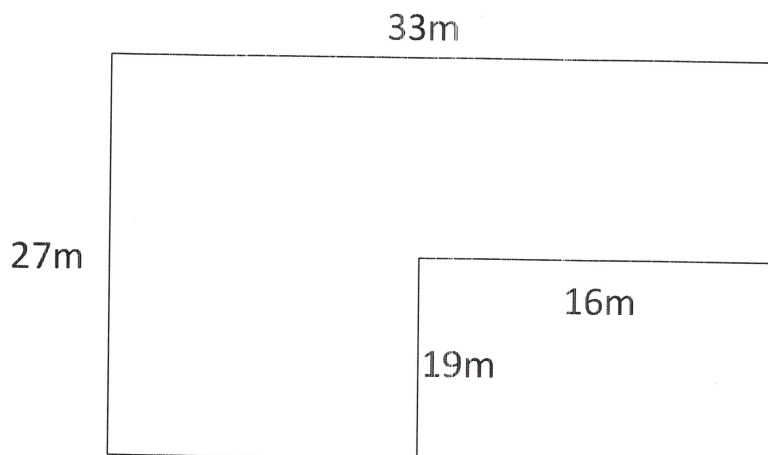




Transition Task

Diagram not to scale



The diagram shows a plan view of a school classroom. By finding the lengths of the missing sides, find the Area and Perimeter of the classroom.

Show all your working and present your solution in a neat and logical way which shows how you have calculated your answers. You may not use a calculator.

Extension

The classroom is to be carpeted. This requires carpet grip to run around the outer edges of the room, and carpet to cover the floor area.

Carpet costs £9.20 per square metre, and carpet grip costs 57p per metre.

Work out the total cost of materials to carpet the room. Show all your workings. You may not use a calculator.

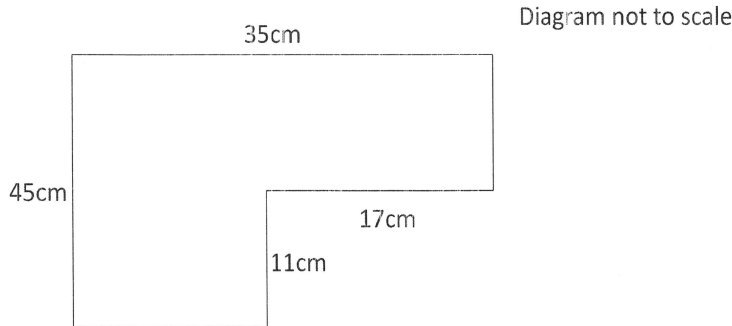
Transition Task – Teachers Pack

This year we have chosen a task for the students which will place on emphasis on the following fundamental mathematic skills:

- Understand the concept of length and be able to work out missing sides.
- Understanding of area and perimeter concepts.
- Ability to add, subtract and multiply numbers.
- Ability to present the solution to a problem through a neat, well laid out , logical sequence of steps which clearly 'tells the story'.

We have included an example of an answer to a similar problem (provided by a Year 6 student from one of our local primary schools earlier this year) as an illustration of the perfect solution, and an annotated version of the same answer to show why it is presented in this way. Please note that the worked solution has been shrunk by 75% to fit the space available.

Example Question and Solution



The diagram shows a plan view of a school classroom. By finding the lengths of the missing sides, find the Area and Perimeter of the classroom.

3.

35cm
45cm
17cm
11cm
18cm
34cm

A_1
 A_2

34
35

18
11

a) Area

$A_1 = 35 \times 34$
 $A_1 = 1190 \text{ cm}^2$

$A_2 = 11 \times 18$
 $A_2 = 198 \text{ cm}^2$

$A = A_1 + A_2$
 $A = 1190 + 198$
 $A = 1388 \text{ cm}^2$ ✓

b) perimeter

34
35
18
11
18
11

$P = 160 \text{ cm}$ ✓

Date

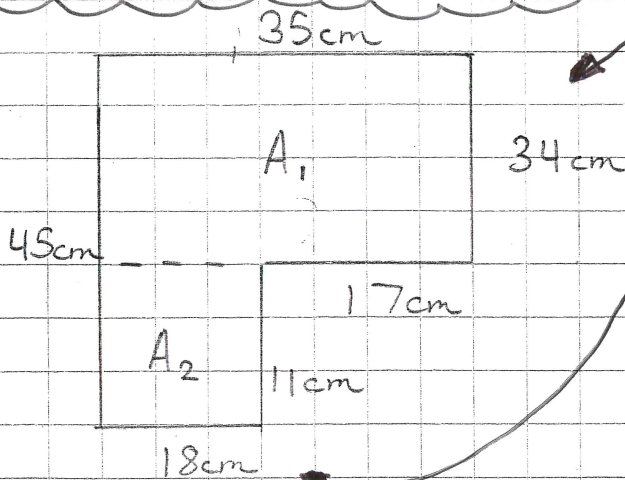
Title

Margin →

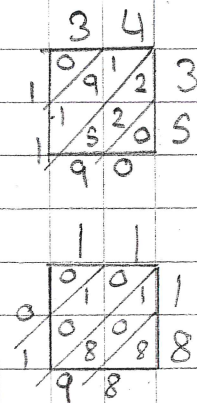
The shape is neatly drawn, using a ruler, at a good size that allows the dimensions to be read easily.

Workings are done neatly on the right-hand side of the page

She works out the missing lengths and adds them to her diagram.



She splits the shape into two rectangles and labels them A_1 and A_2



She shows clearly what calculations are being done at each stage

a) Area

$$A_1 = 35 \times 34$$

$$A_1 = 1190 \text{ cm}^2$$

$$A_2 = 11 \times 18$$

$$A_2 = 198 \text{ cm}^2$$

$$A = A_1 + A_2$$

$$A = 1190 + 198$$

$$A = 1388 \text{ cm}^2$$

$$\begin{array}{r} 1190 \\ 198 \\ \hline 1388 \end{array}$$

b) perimeter

$$\begin{array}{r} 35 \\ 34 \\ 17 \\ 11 \\ 18 \\ 45 \end{array}$$

$$P = \underline{160 \text{ cm}}$$

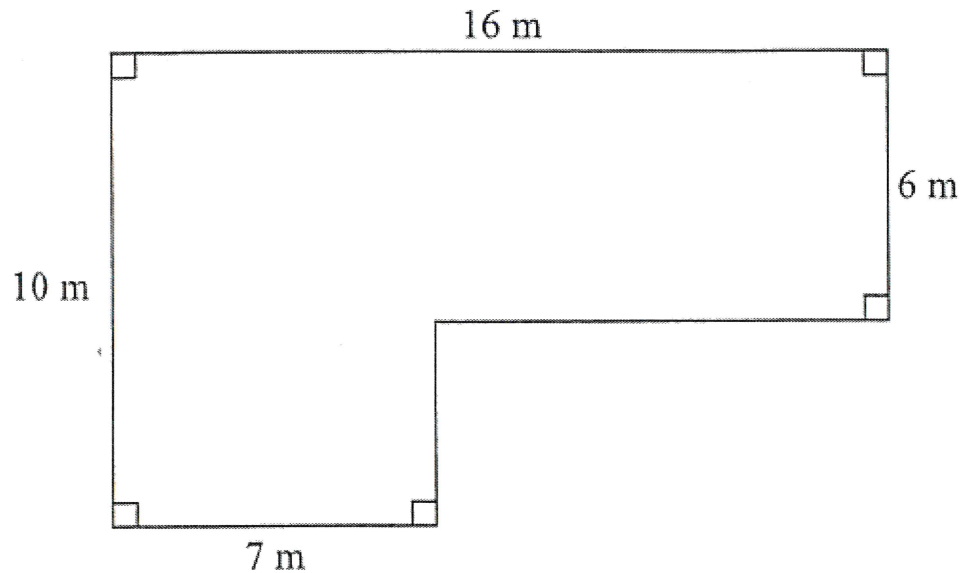
The final answer is presented at the end and underlined. Units are included.



Extension

1.

The diagram shows the plan of a small field.



Kevin is going to keep some pigs in the field.
Each pig needs an area of 36 square metres.

Work out the greatest number of pigs Kevin can keep in the field.

2.

The diagram shows a rectangle and a square.

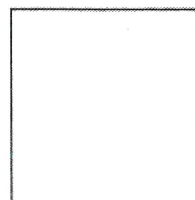
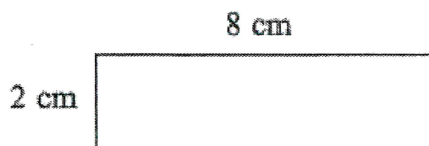


Diagram **NOT**
accurately drawn

The perimeter of the rectangle is the same as the perimeter of the square.

Work out the length of one side of the square.

3. The diagram shows the plan of a floor.

Angie is going to varnish the floor.

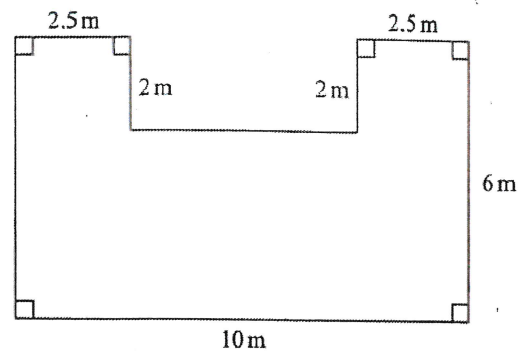
She needs 1 litre of varnish for 5 m^2 of floor.

There are 2.5 litres of varnish in each tin of varnish.

Angie has 3 tins of varnish.

Does she have enough varnish for all the floor?

You must show all your working.



4. The diagram shows a path around a pond.

The pond is in the shape of a rectangle with length 7 m and width 4 m.
The path is 3 m wide.

Ali is going to cover the path with gravel.
One bag of gravel will cover 10 m^2 of the path.

How many bags of gravel does Ali need to buy?
You must show your working.

