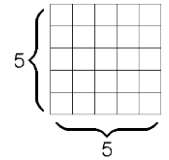Finding the area of a shape.

We have already discovered how to find the perimeter of a shape. Remember we do this by finding the <u>total</u> length of the all the sides.

We discovered that we would need to know how to do this if we wanted to do things like putting ribbon around a box or putting a fence around a field.

Now we are going to discover how to find the area of a shape.

Area is the word that is used to explain the amount of space taken up by a 2D shape or surface, the space inside the shape, the blue shaded area.

Area

Watch this video   https: //www.bbc.co.uk/bitesize/topics/zjbg87h/articles/zwqt6fr

The builder wanted to know how many tiles he needed to cover his wall so he calculated it by multiplying the length of the wall by the width of the wall.

We can find the area of any shape by multiplying the length of the shape by the width of the shape.

When we measure area we always say that it is in square units: foe example cm² or m².

So if my shape was 2 meters long and 6 meters wide my number sentence would be

$$2m \times 6m = 12 \text{ m}^2$$

Now try these calculations:

You will need

A ruler

Squared paper

Pencil

1. Use a ruler to measure and draw these rectangles onto the square paper.
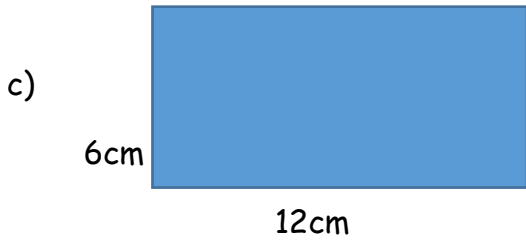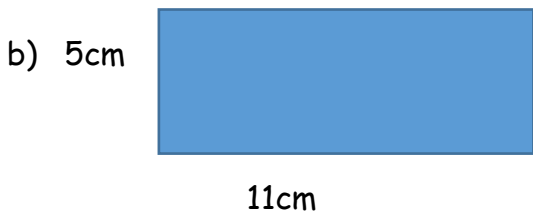
Then find the area of the rectangle, remember to write down the number sentence.

Howe can you check you have the correct answer? Think about the video.

a)

3cm x 8cm =

b) 5cm

11cm

c)

6cm

12cm
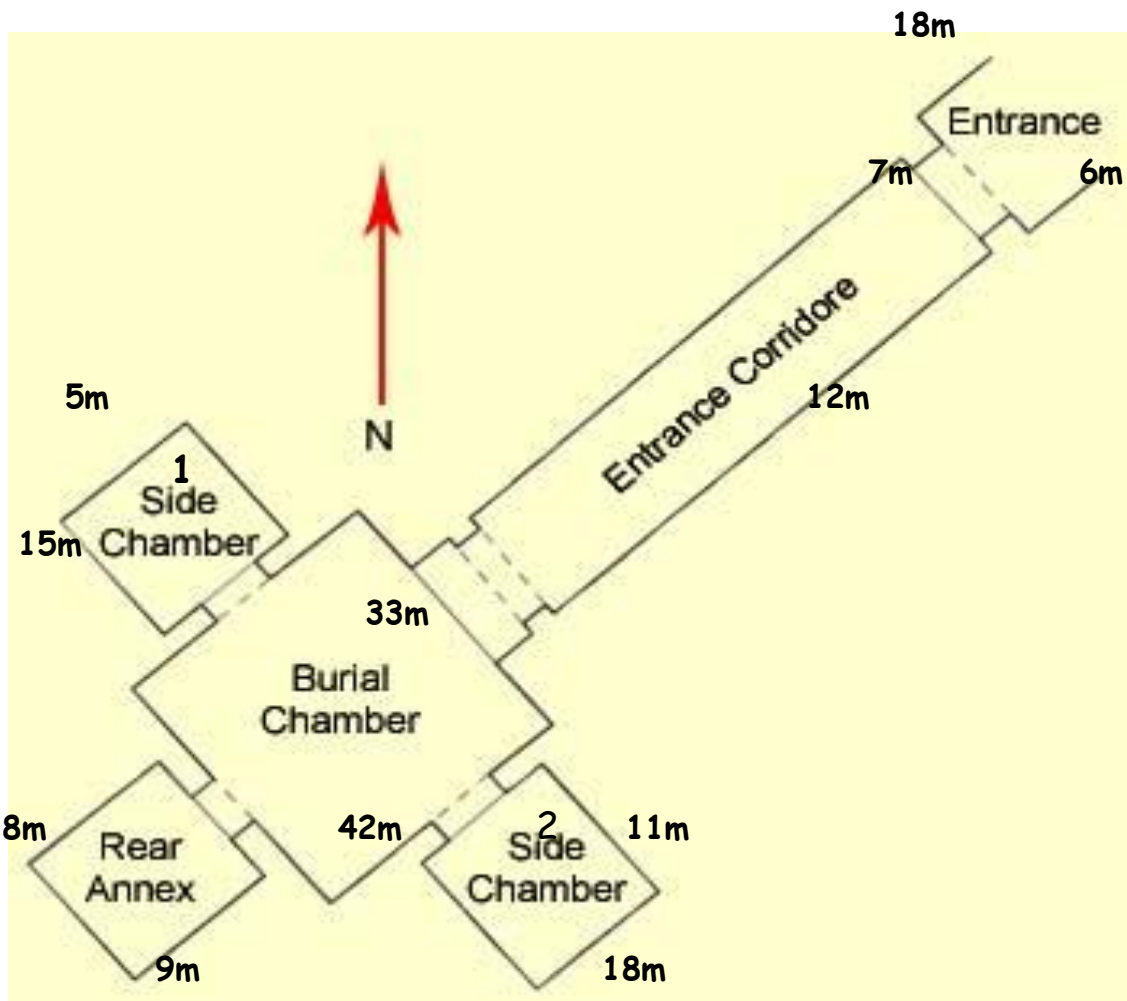
2) Look at the Egyptian tomb diagram and answer the questions. You can use a calculator. Remember to write your number sentence.

The Tomb of Tyti

18m

Entrance

7m   6m

Entrance Corridore

12m

5m

N

1
Side
15m Chamber

33m

Burial
Chamber

8m

Rear
Annex

42m

2
Side
Chamber

11m

9m

18m

Find the area of the following rooms

a) Side chamber 1

b) Entrance

c) Side Chamber 2

d) Rear annex

e) Burial chamber

e) Entrance Corridor

f) Can you find the **total** are of the tomb?

3)

Compound shapes.

Not all shapes are complete squares or rectangles, look at the shape below

1

2
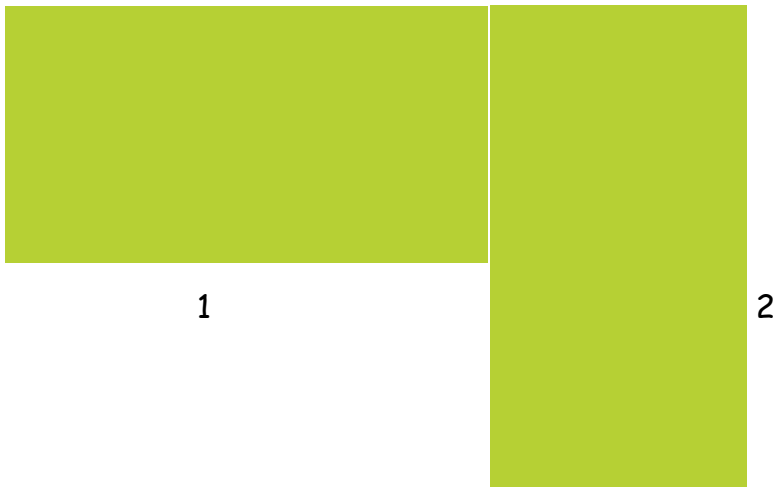
How do we find the area of this shape?   This compound shape is made of 2 rectangles. To find the area we calculate the area of each shapes, (1 & 2) that make up the bigger shape. Then add these together.

Shape 1   5cm

Area: 5cmx3cm =15cm

3cm

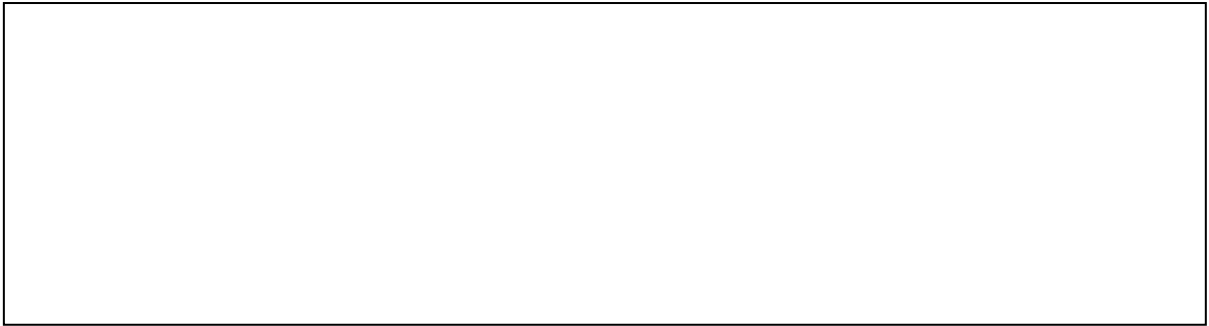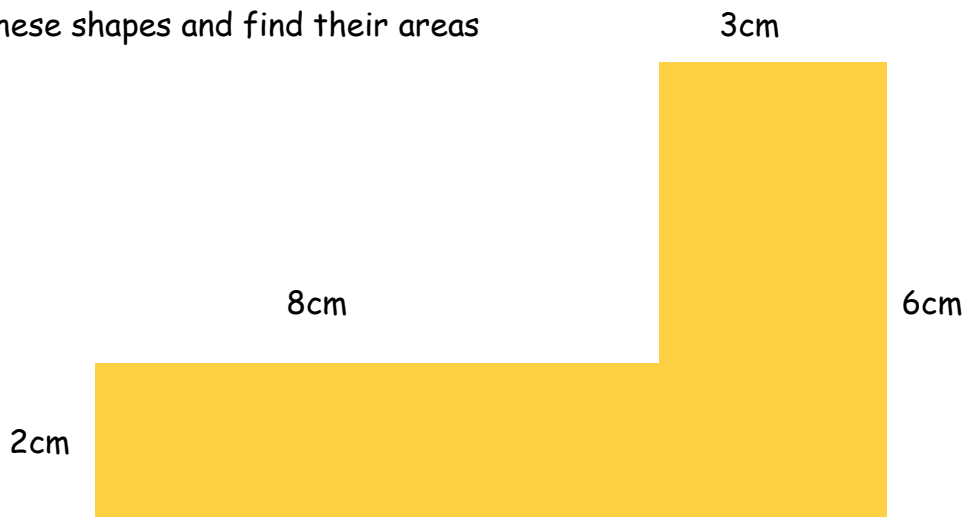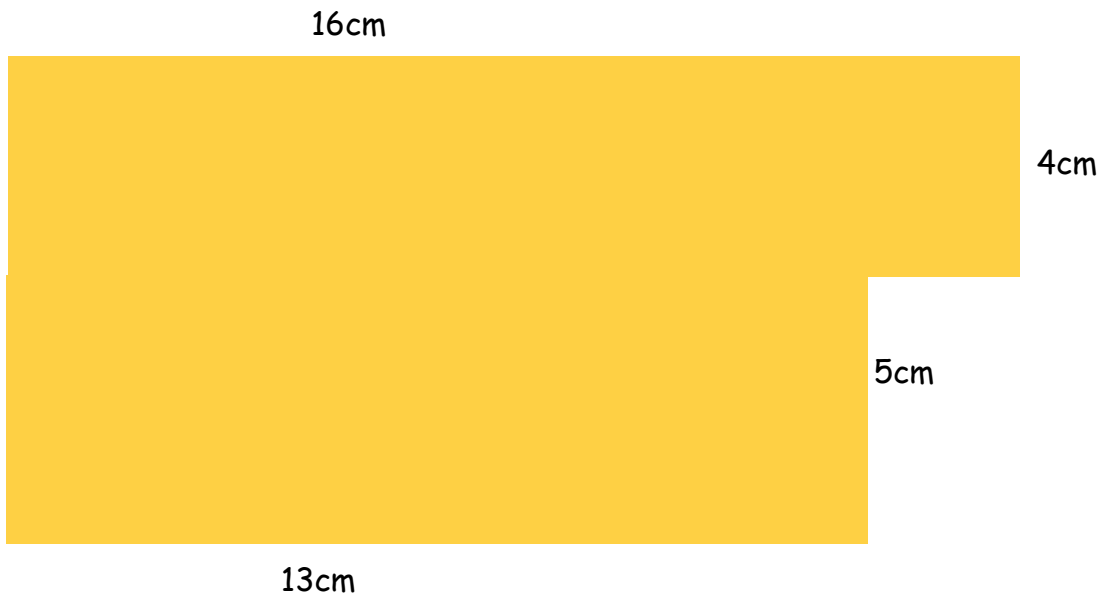Shape 2   4cm

7cm
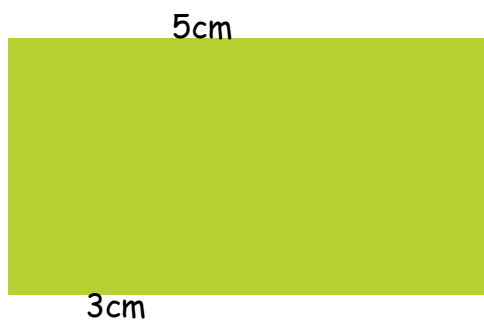
Area: 4cm x7cm=28cm

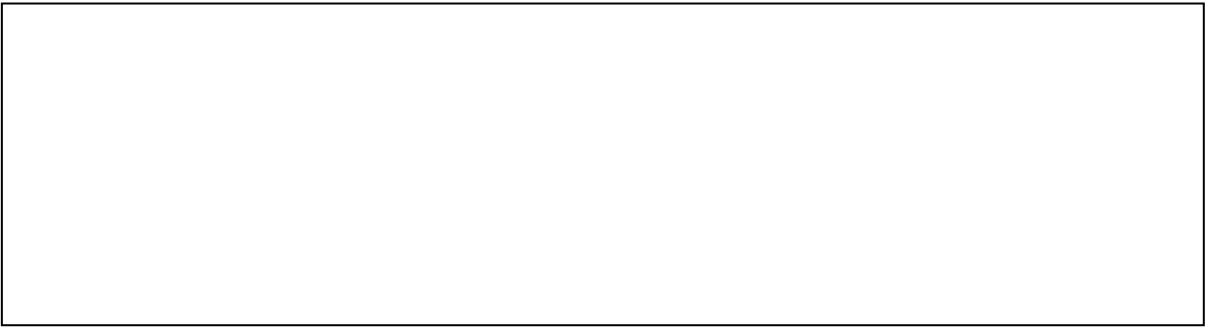Total area of compound shape 15cm + 28cm=43cm

Now copy these shapes and find their areas

3cm

a)

8cm   6cm

2cm

b)

16cm

4cm

5cm

13cm

c)

15cm

25cm

15cm

9cm

d)

4cm

5cm

6cm

8cm

9cm   (15cm wide)
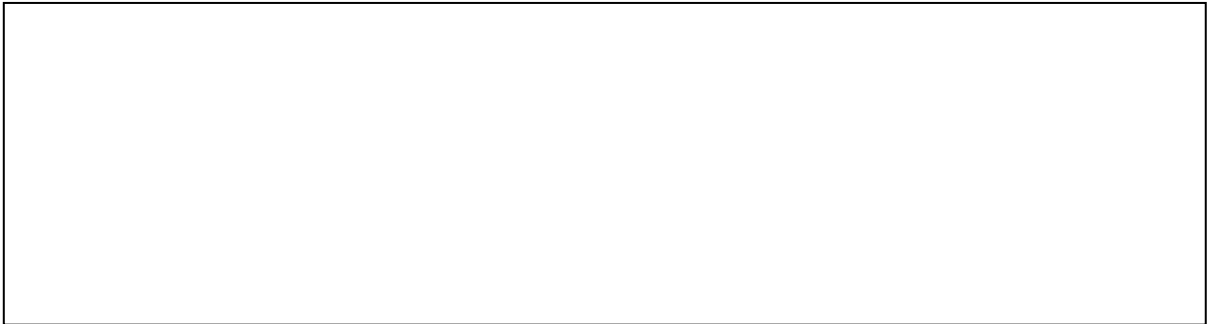
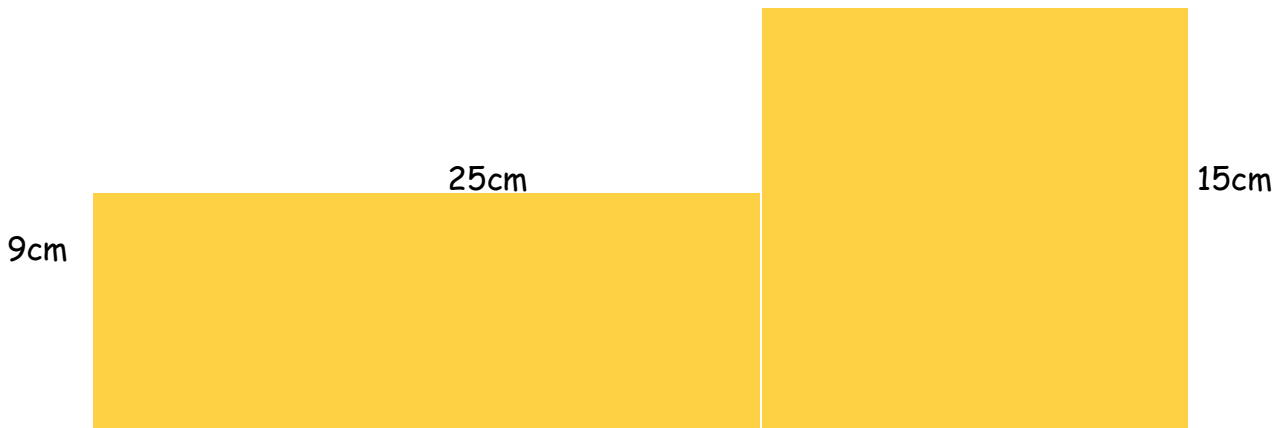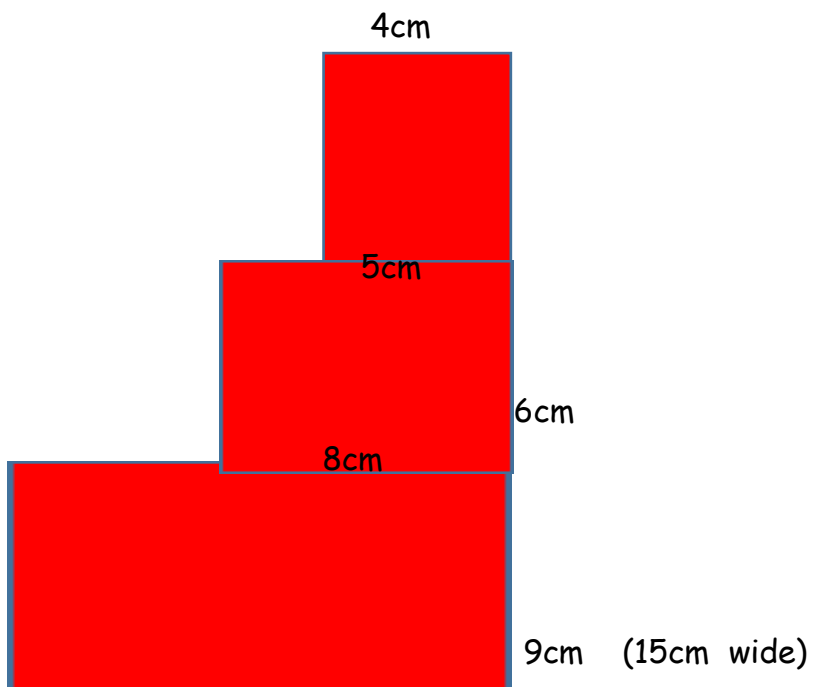4) Make up two compound shapes of your own and find their areas,

Self-evaluation:

Easy	Tricky	Too hard

I thought this because,