

Monday 25th January

LO: To calculate the area of compound shapes

To warm up

Write all of the factors of these numbers:

Remember a factor is a number that you can divide the given number by equally with no remainders.

- a) 36
- b) 64
- c) 48
- d) 100

e) Which is the odd one out?

What do these two words mean? How do we find them? Can you draw a diagram to explain.

Perimeter

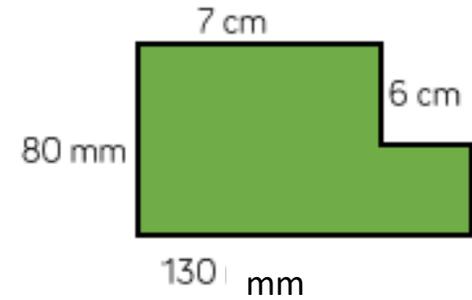
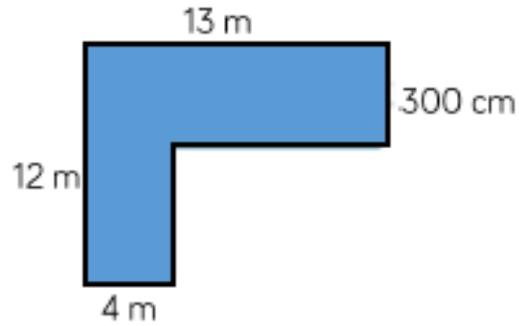
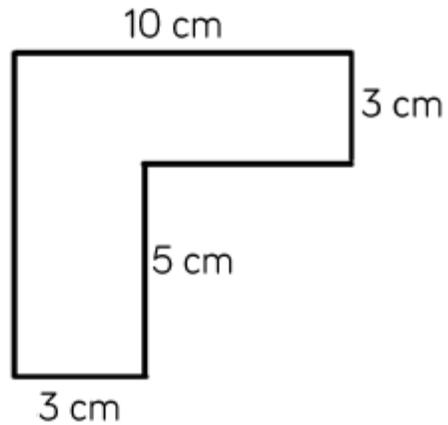
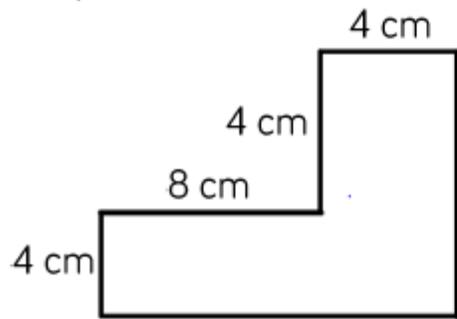
Area

Click on this link and follow the video on 'Find the Area of Compound shapes'

This is revision from Y5 because we haven't done area for a little while.

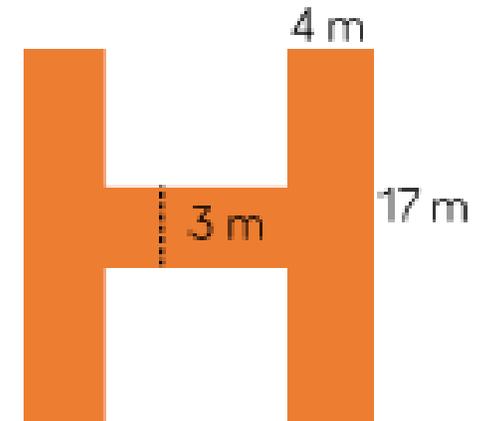
<https://whiterosemaths.com/homelearning/year-5/week-12-measurement-perimeter-area/>

Try It



Find the area of each of these shapes.

Find the perimeter of each of these shapes.

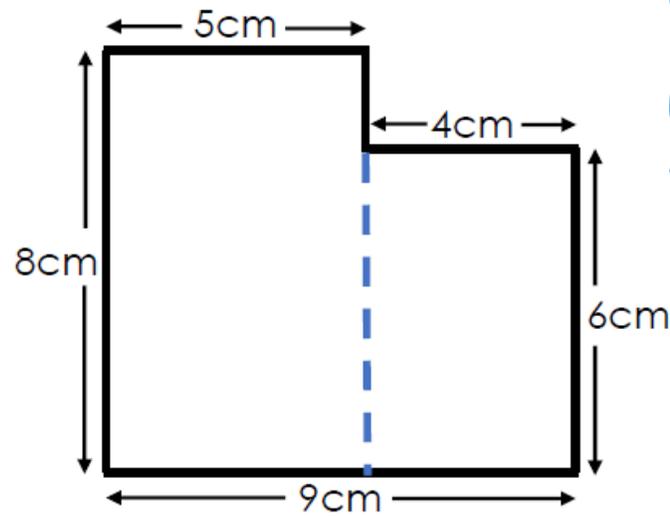


This shape is symmetrical

Use It

Spot the mistake

What is the area of the shape?



$$9 \times 8 = 72$$
$$6 \times 4 = 24$$
$$72 + 24 = 96 \text{ cm}^2$$

Draw



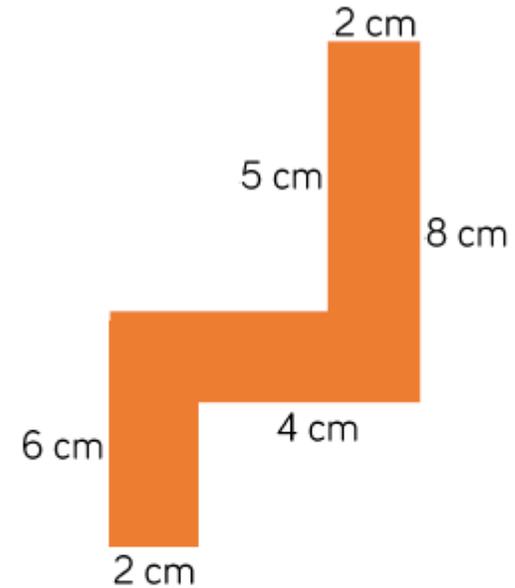
Draw a rectangle with...

...a smaller area and a larger perimeter:

...the same perimeter and a larger area:

Prove It

Jack says this shape has an area of 34 cm^2 .

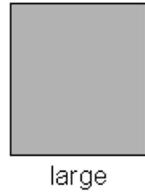


Show that Jack is correct.

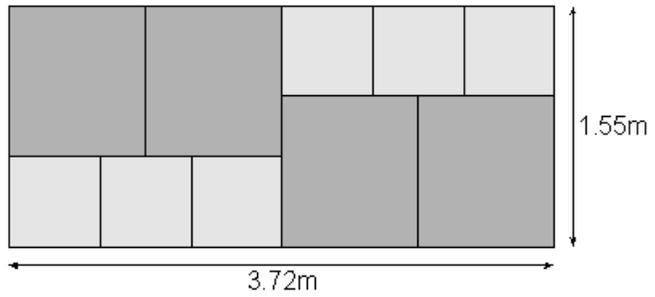
Find three more possible compound shapes that have an area of 34 cm^2 .

Extra Challenge

Q4. Mr Jones has two sizes of square paving stones.



He uses them to make a path.



The path measures **1.55 metres** by **3.72 metres**.

Calculate the **width** of a **small paving stone**.

Tuesday 26th January

LO: To find the area of a triangle

To warm up

Write the lowest common multiple of these numbers:

HINT: count up in multiples of the largest number until you reach a multiple of the other number.

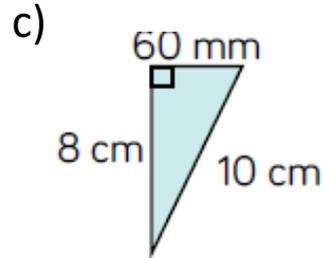
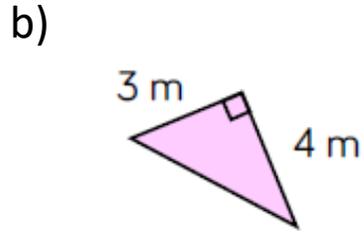
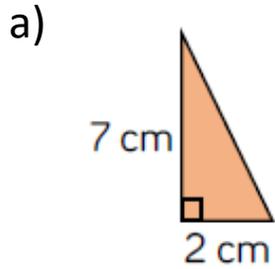
a) $5 + 7$

b) $4 + 5$

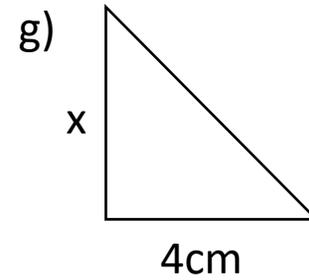
c) $13 + 3$

Try It

Find the area of each of these triangles

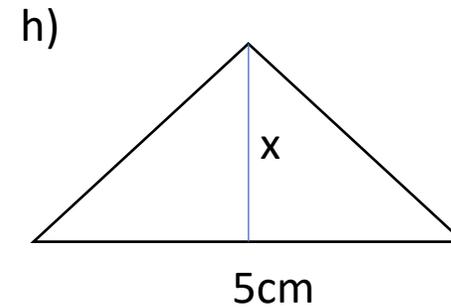
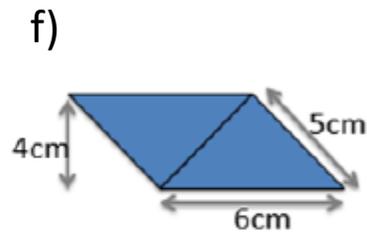
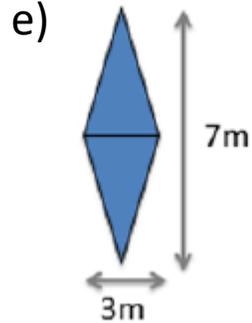
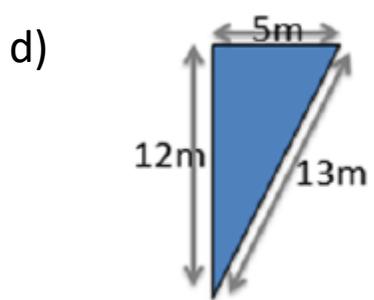


Find the missing lengths



Area = 36cm^2

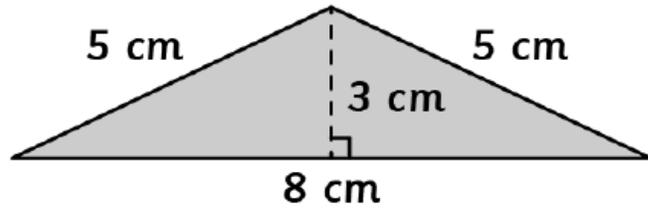
Calculate the area of each shape.



Area = 32.5cm^2

Use It

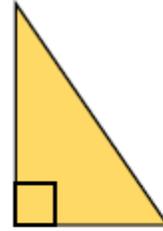
name: Bailey



$$8 \times 5 = 40$$

$$40 \div 2 = 20$$

$$\text{area} = 20 \text{ cm}^2 \times$$



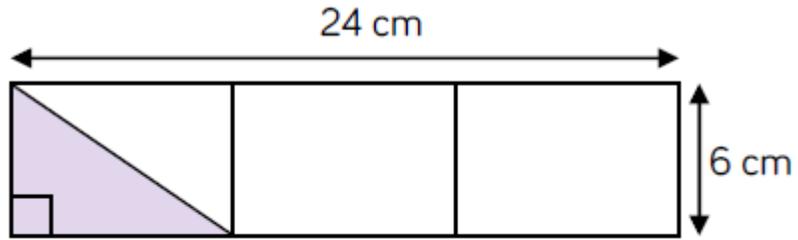
$$\text{Area} = 54 \text{ cm}^2$$

What could the length and the height of the triangle be?

How many different integer possibilities can you find?

Prove It

Calculate the area of the shaded triangle.



Mo says,

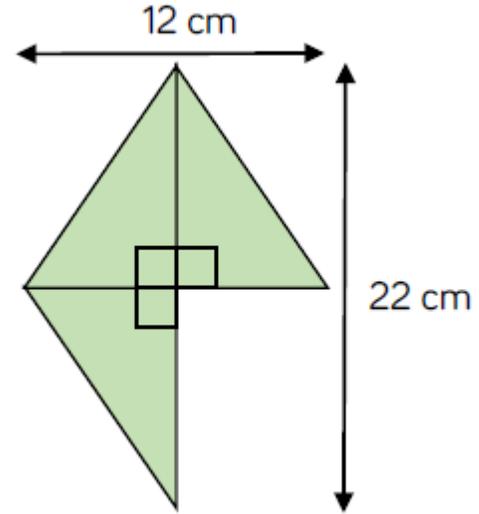


I got an answer of
 72 cm^2

Do you agree with Mo?

If not, can you spot his mistake?

The shape is made of three identical triangles.



What is the area of the shape?

Wednesday 27th January

LO: To calculate the area of a parallelogram

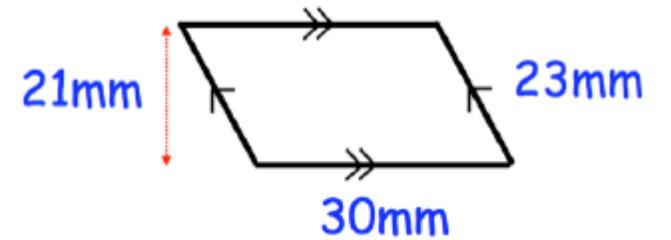
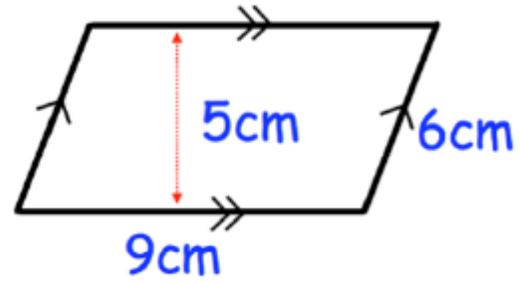
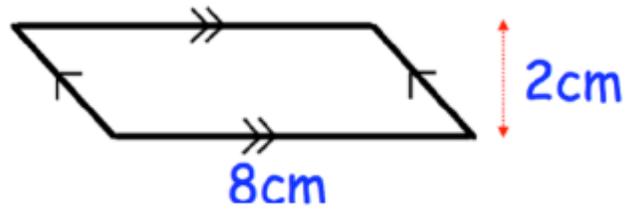
To warm up

What is a parallelogram?

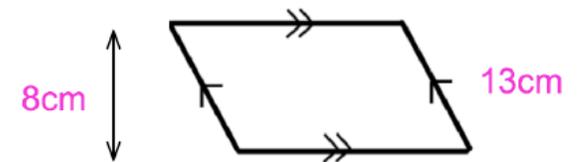
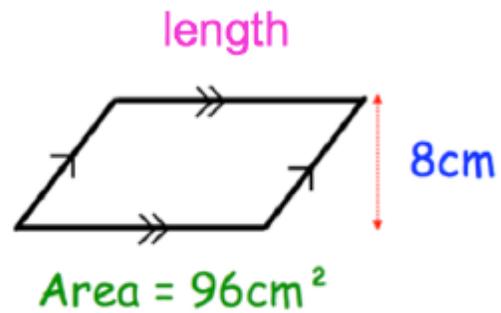
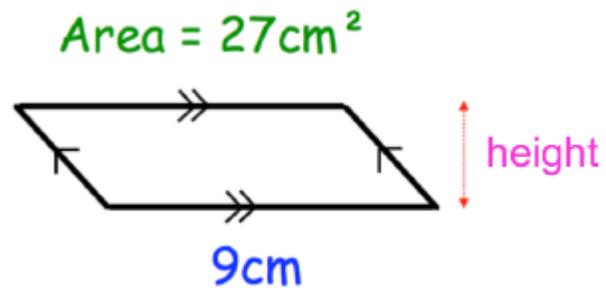
Can you draw one?

Write down its properties

Try It

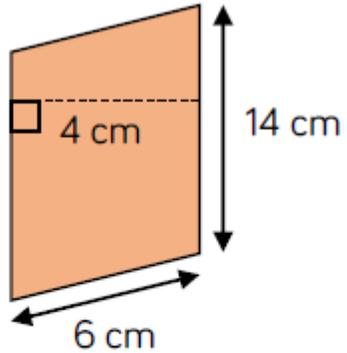


The perimeter of this parallelogram is 60cm



Work out the area of the parallelogram

Use It

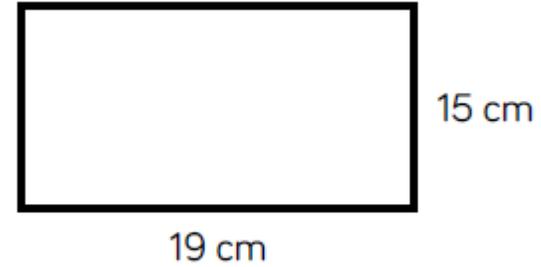


Dexter thinks the area of the parallelogram is 84 cm^2 .

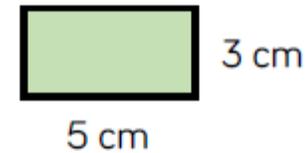
What mistake has Dexter made?

What is the correct area?

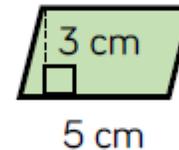
Dora and Eva are creating a mosaic.
They are filling a sheet of paper this size.



Dora is using tiles that are rectangular.



Eva's tiles are parallelograms.

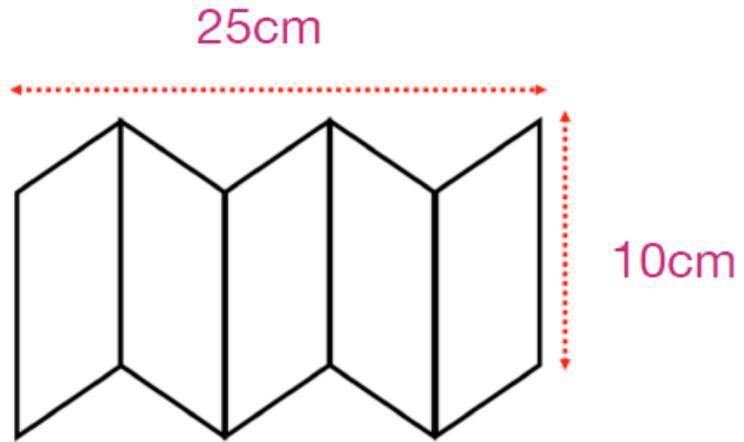


Dora thinks that she will use fewer tiles than Eva to fill the page because her tiles are bigger.

Do you agree? Explain your answer.

Prove It

A logo is made up of 5 identical parallelograms.



Find the area of one parallelogram

Thursday and Friday :
Design a Wildlife park

Use a large piece of paper (or a few pieces stuck together) or print the squared paper provided if possible.

You have a budget of **£10 000** to spend on your whole design.

Compulsory buildings – building you must have

Minimum number	Building	Area	Cost per Building (£10 per 1m ²)	Total Cost
1	Ticket Kiosk	10m ²		
1	Café	25m ²		
2	Ice Cream Shop	12m ²		
1	First Aid	12m ²		
1	Staff Room	15m ²		
1 per animal	Keeper hut	4m ²		
1	Vet hospital	16m ²		
2	Toilets	3m ²		
1	Gift Shop	10m ²		
Footpath around each building			£0 – No cost	
			Total Cost	

Your zoo must also include the following things:

2 large animals, 2 medium animals and 2 small animals.

Your zoo will attract more guests if you have a range of animals with large enough habitats.

Animal	Area	Cost (£10 per square)
Large Animals		
Giant Antarctic octopus	32m ²	
Hourglass dolphin	30m ²	
Orca	64m ²	
Seals	28m ²	
Caribou	50m ²	
Polar bear	60m ²	
Walrus	36m ²	
Medium Animals		
Antarctic Toothfish	15m ²	
Penguin	28m ²	
Arctic fox	20m ²	
Snowy owl	16m ²	
Wolverine	25m ²	
Puffin	20m ²	
Dall sheep	20m ²	

Small Animals		
Jellyfish	10m ²	
Arctic woolly bear moth	6m ²	
Arctic hare	8m ²	
Lemming	8m ²	
Sea otter	12m ²	
Ermine	12m ²	

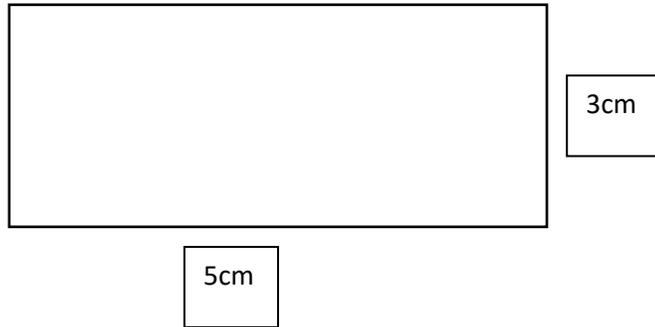
Your animals also need some things to help them stay healthy.

Item	Cost	Quantity needed	Total
Food bowl	£10		
Water bowl	£8		
Bed	£25		
Toy	£20		
Vet check up	£100		
Habitat clean (once a day)	£60		
Total			

Each habitat will also need a fence or barrier. Barriers cost different prices depending on the material they are made out of.

You will need enough barrier to fit around the whole perimeter of your enclosure so if my enclosure looked like this:

Then the perimeter of my enclosure is $5 + 5 + 3 + 3 = 16\text{m}$ so I would need to buy 16m of barrier.



Item	Cost per m	Quantity needed (in m)	Total
Metal fence	£5		
Wooden fence	£3		
Glass	£8		
One-way glass (so the animals can't see the guests)	£10		
Total			