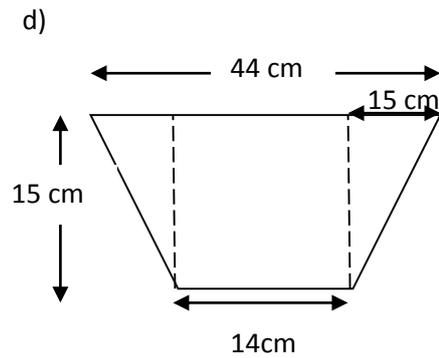
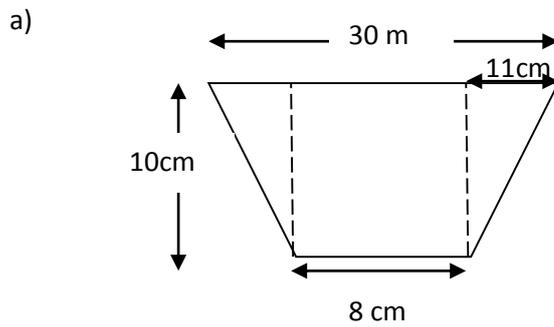
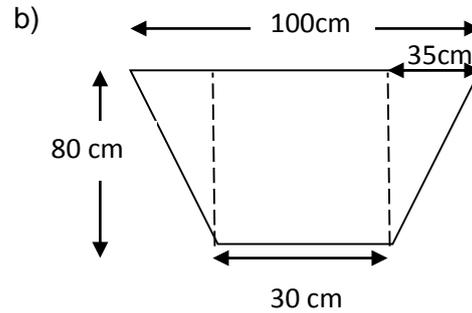
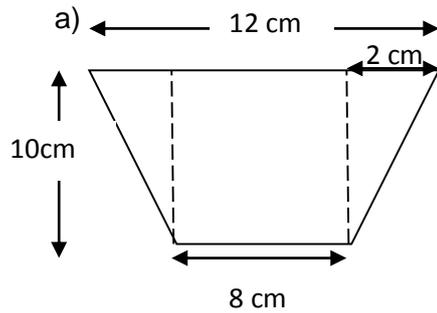
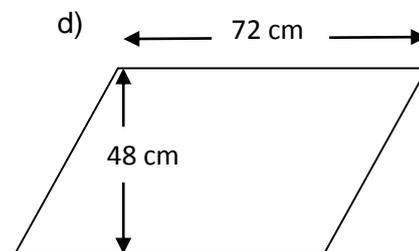
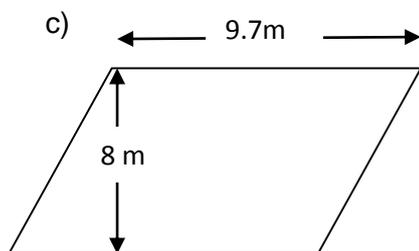
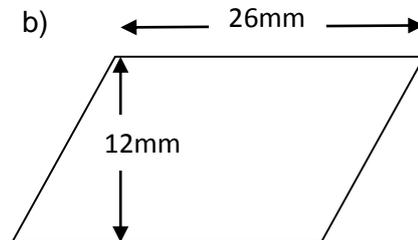
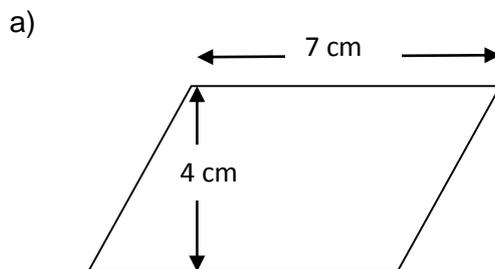


Calculating the area of a parallelogram, kite and trapezium

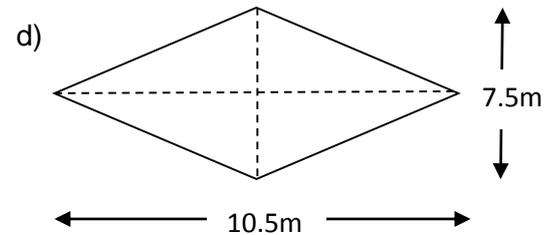
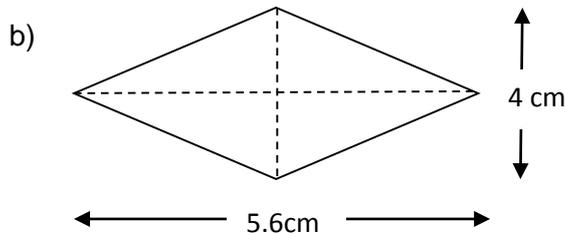
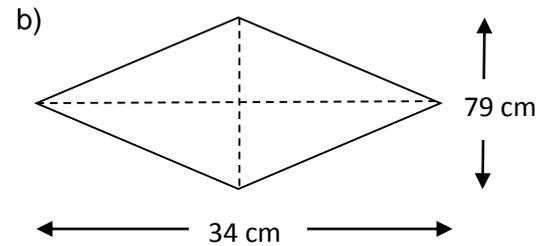
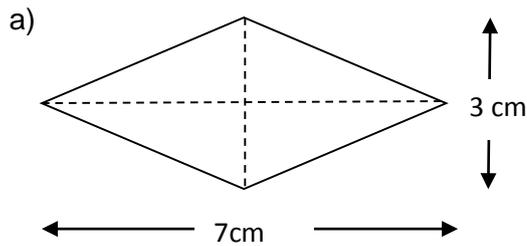
1. Calculate the area of the following:



1) Calculate the area of the following:

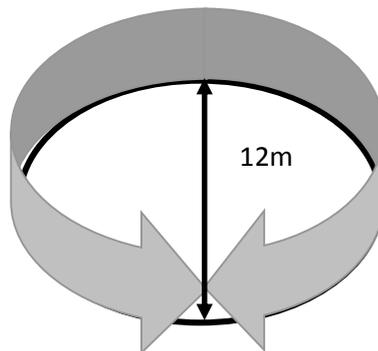


3) Calculate the area of the following:



Calculating the circumference and area of a circle

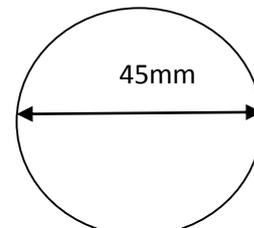
1) In the World's Strongest Man contest the men have to carry a heavy weight around the edge of a circle with a diameter of 12m



- a) Calculate the circumference of the circle
- b) Calculate the area of the circle.

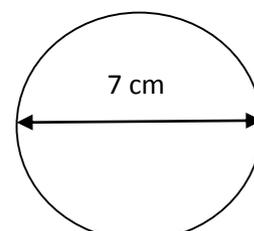
2) A new coin is being designed to celebrate the birth of Prince William and Kate's baby being born. It has a diameter of 45mm

- a) Calculate the circumference of the coin
- b) Calculate the area coins face

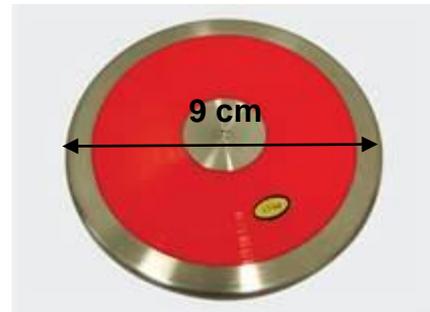


3) This diagram shows the base of a cup. The base of the cup is a circle with diameter of 7cm

- b) Calculate the circumference of the cup
- c) Calculate the area of the base.



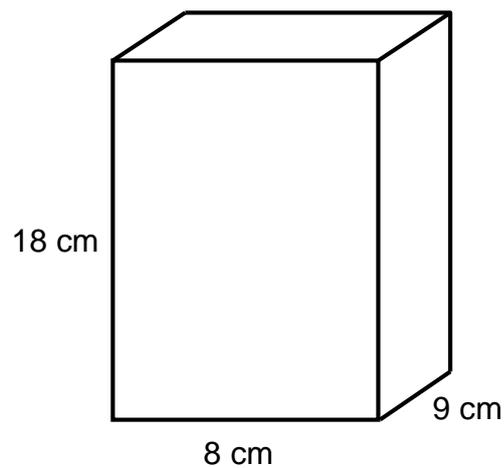
- 4) Shown is a discus with a diameter of 9cm
- Calculate the circumference of the discus
 - Calculate the area of the discus.



Investigating the surface area of a prism

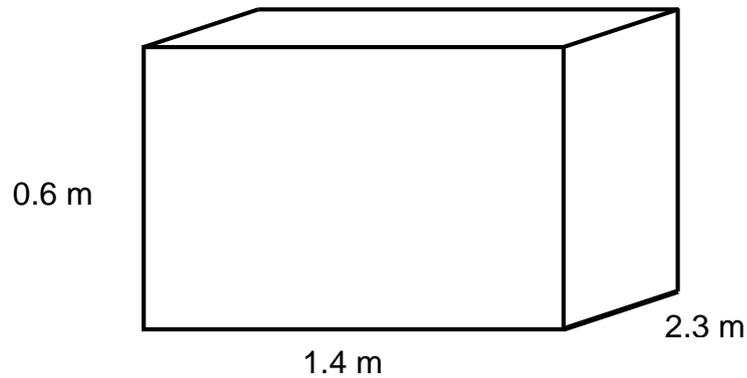
- 1) A cereal box is in the shape of a cuboid.

The cuboid is 9 centimetres long, 8 centimetres wide and 18 centimetres high, as shown in the diagram below.

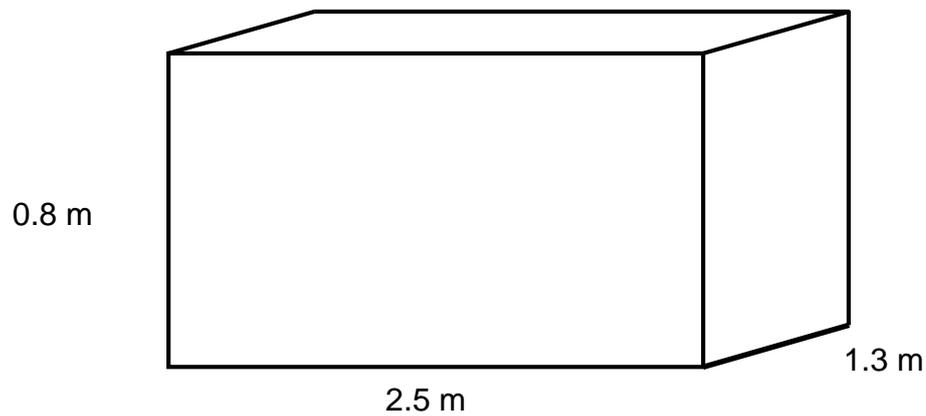


Calculate the surface area.

- 2) The diagram shows the frame for a rabbit hutch.
Calculate the surface area.

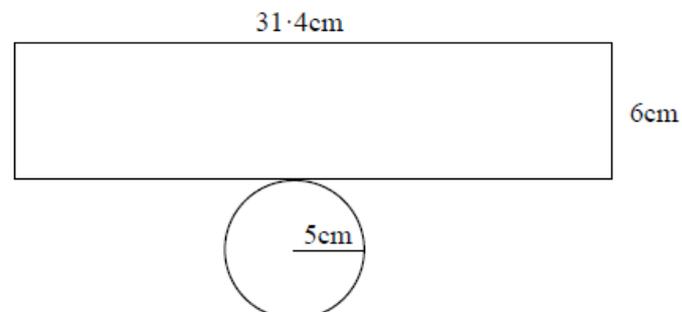


- 3) A set of soft toys in the shape of cuboids are to be made for a children's soft play area. Calculate the surface area of one cuboid.



4.

A container designed to hold mustard is open ended and has the net shown in the diagram below



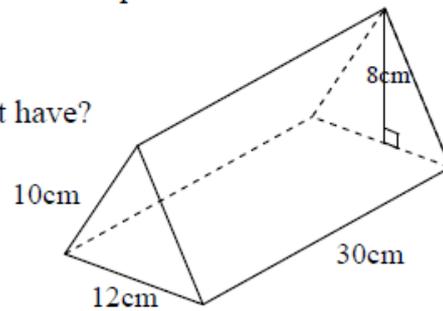
Calculate the area of this net.

5.

(a) What is the mathematical name given to this 3D shape?

(b) How many faces, edges and vertices does it have?

(c) Calculate the surface area of it.

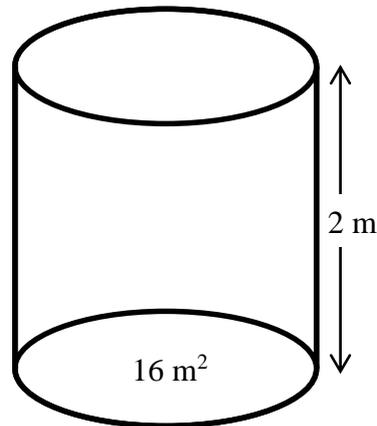


Calculating the volume of a prism

1) A farmer has a large cylindrical container for storing grain to feed his hens.

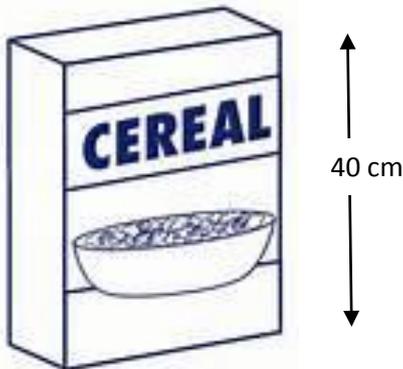
The area of the base of the container is 16 square metres.

The height of the container is 2 metres.

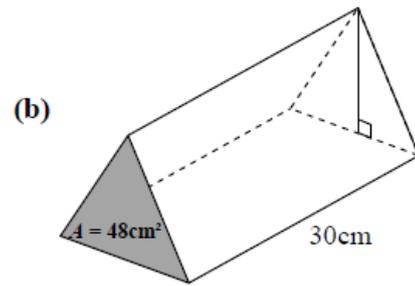
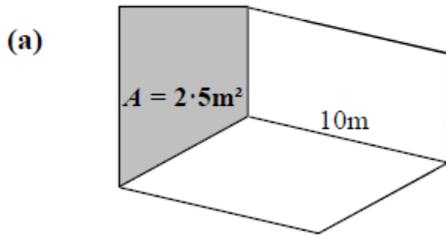


Calculate the volume of the container.

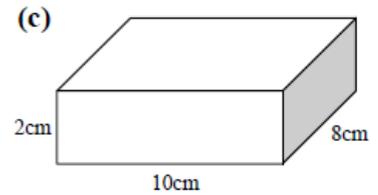
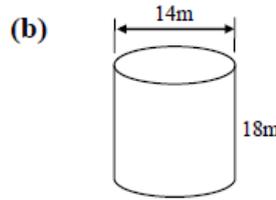
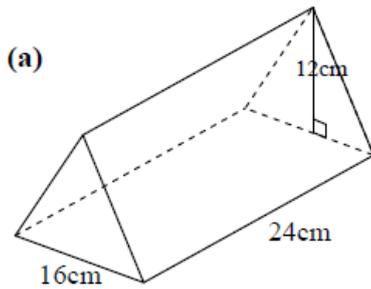
2) The cereal box below has been designed. Calculate the volume of cereal the box can hold. If the area of the base of the container is 108 square centimetres. The height of the container is 40 centimetres.



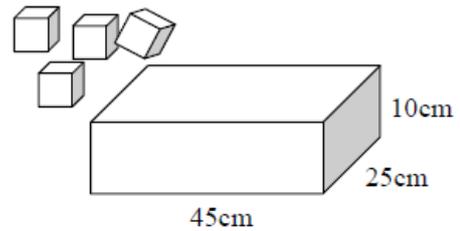
3) Calculate the volumes of these prisms.



4) Calculate the volumes of these prisms:



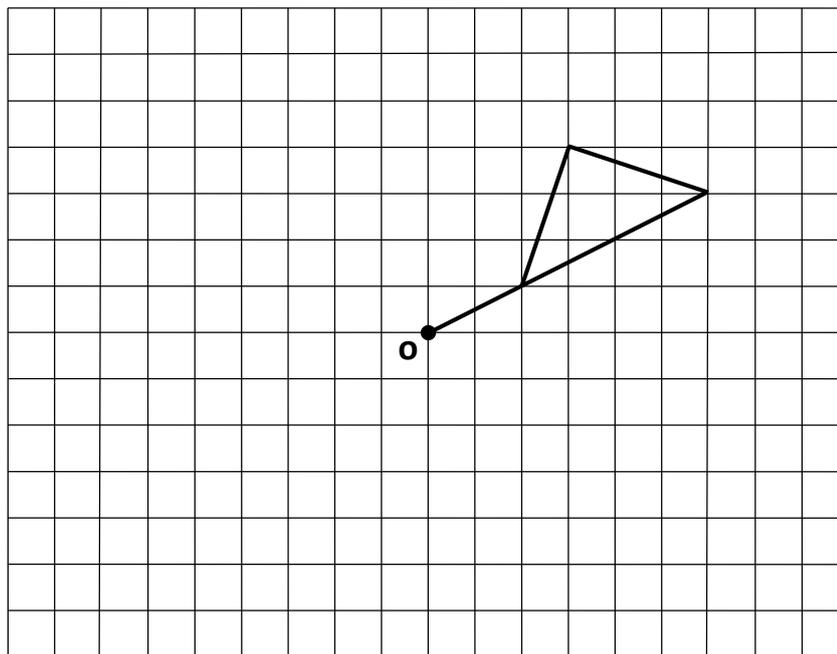
5) Jake has 100 cube shaped building blocks of side 5 centimetres which he is trying to pack into a box measuring 45cm by 25cm by 10cm.



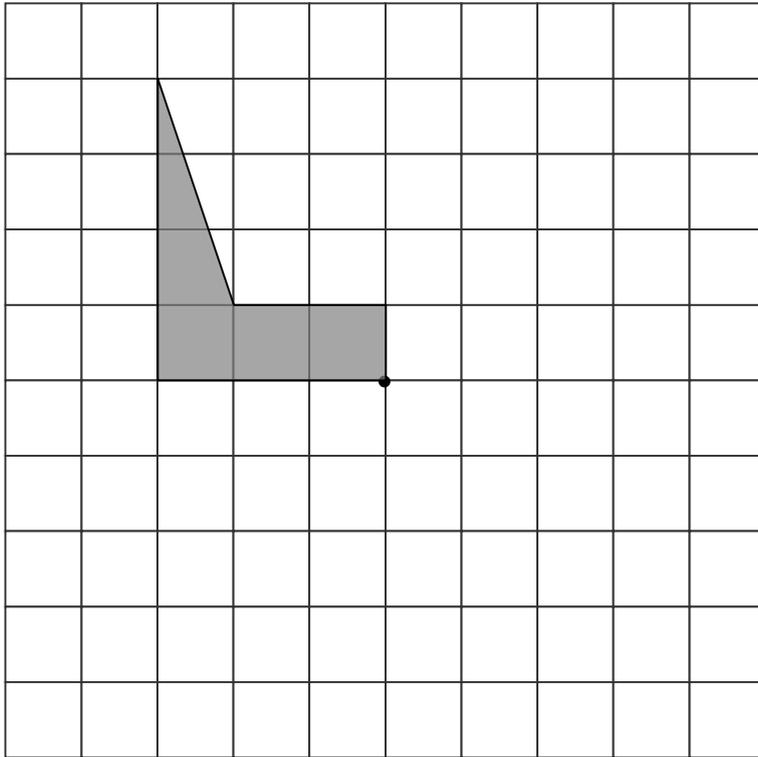
Will all the blocks fit in the box? If not, how many will he be left with?

Using rotational symmetry

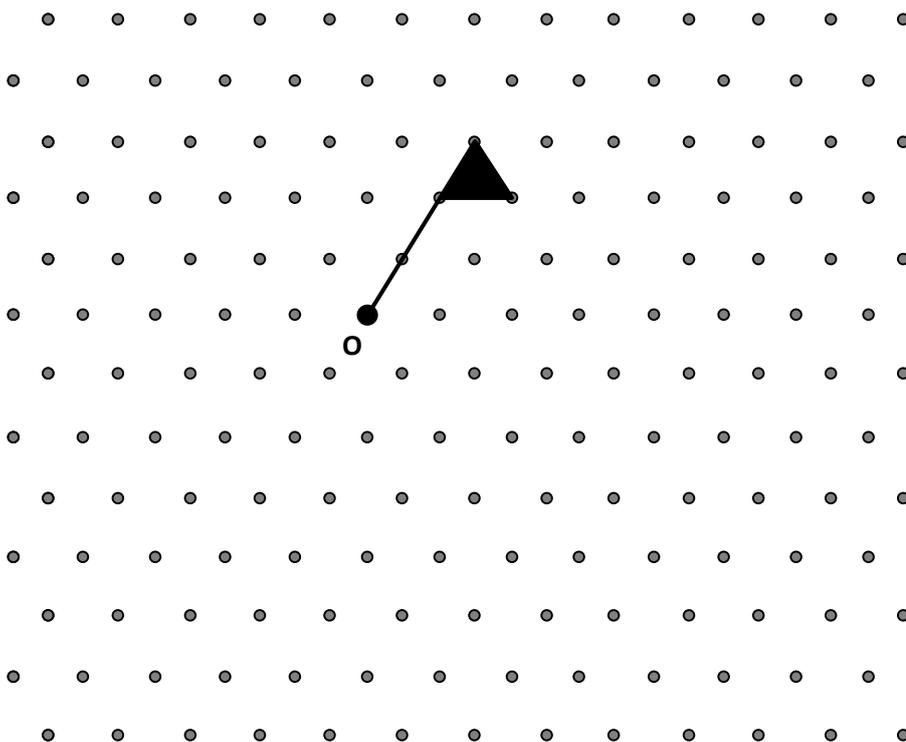
1) Complete the diagram so that it has rotational symmetry of order 4 about the point o.



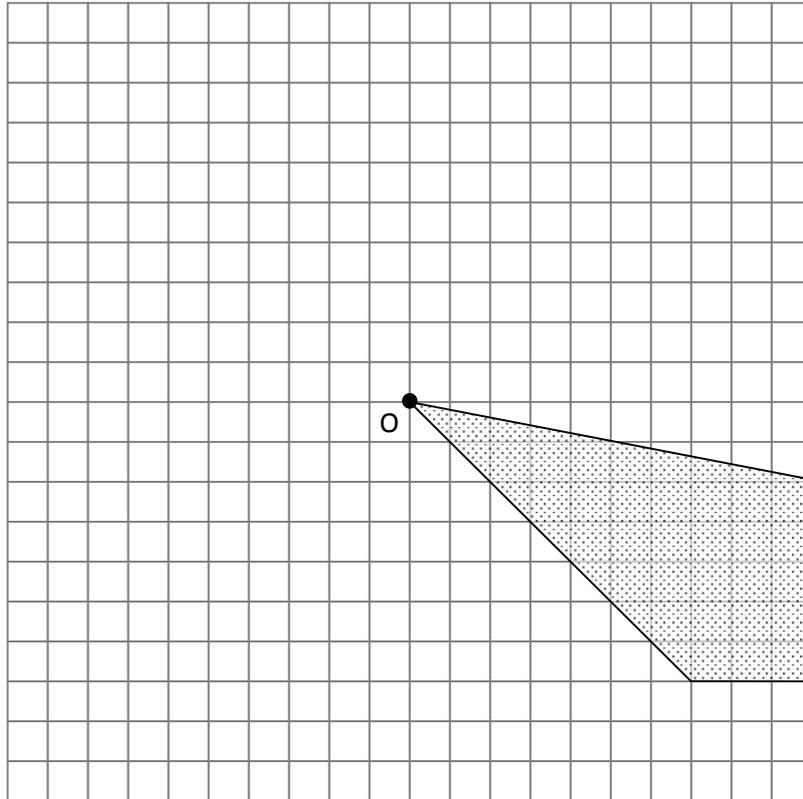
- 2) Complete the shape below so that it has half-turn symmetry about O



- 2) Complete the diagram below so that it has rotational symmetry of order 3 about the point O.



- 3) Complete the diagram so that the shape has half – turn symmetry about the point O



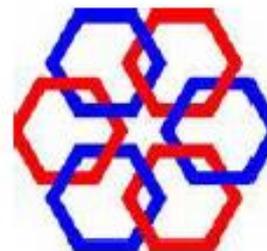
- 4)

Write down the order of rotational symmetry of these shapes:

(a)



(b)



(c)



(d)

