

HELLO!

Today we are going to revise
geometry - properties of shapes

Arithmetic Warm Up

Powers and roots

1. $\sqrt{49} =$

2. $\sqrt{81} + 5 \times 4 =$

3. $6^2 =$

4. $\sqrt[3]{27} =$

Revision on properties of shapes



First we are going to revise:



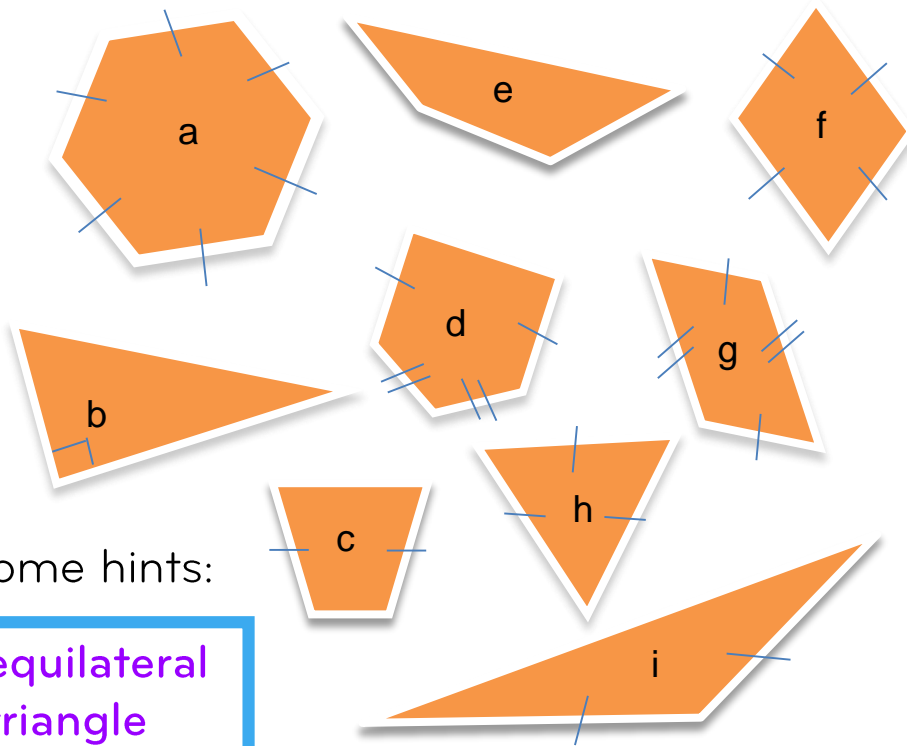
properties of 2D and 3D shapes



nets of 3D shapes

Revision: 2D shapes

1. Name these **polygons** and if they are **regular** or **irregular**.



Some hints:

equilateral triangle

parallelogram

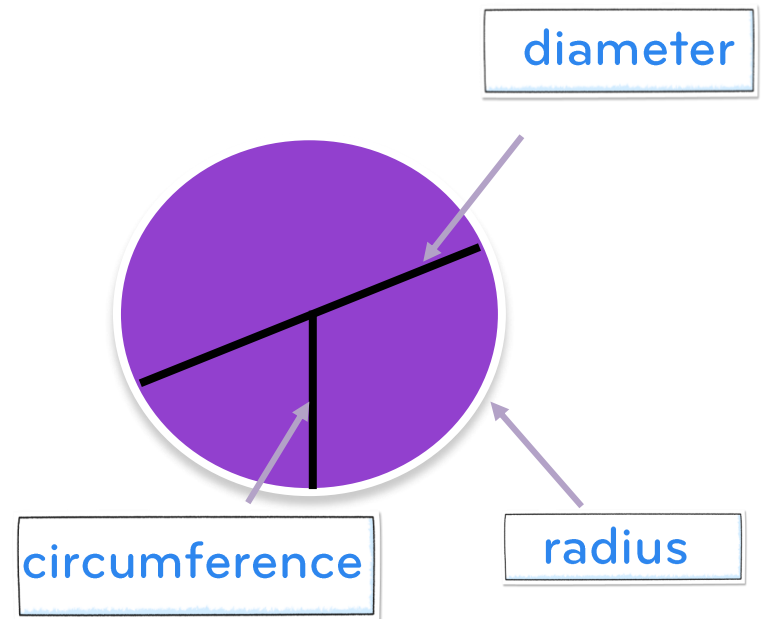
isosceles triangle

trapezium

rhombus

scalene triangle

2. Which labels below are **incorrect**?



3. Explain the difference between an **obtuse** and **acute** angle?



Complete

What do you notice?

Here are six quadrilaterals with their mathematical names.



square



parallelogram



rhombus



oblong



kite



trapezium

Lara chooses one of the quadrilaterals.

She says,

- a) ***'It has two acute angles.
All four sides are the same length.'***

Which quadrilateral did Lara choose?



Stefan chooses one of the quadrilaterals.

He says,

- b) ***'It has more than one obtuse angle.
It has no parallel sides.'***

Which quadrilateral did Stefan choose?



What do you know?

Can you show your working out?

How could you extend the question?

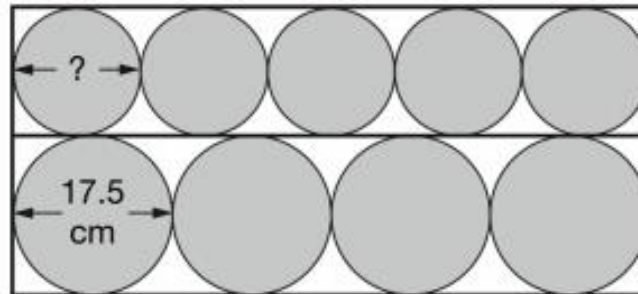
Question 2



Complete

What do you notice?

Four large circles and five small circles fit exactly inside this rectangle.



Not
actual size

What do you know?

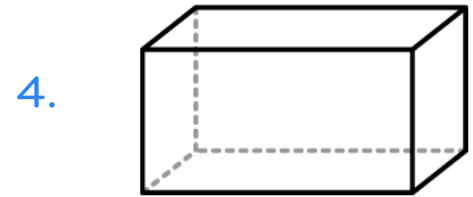
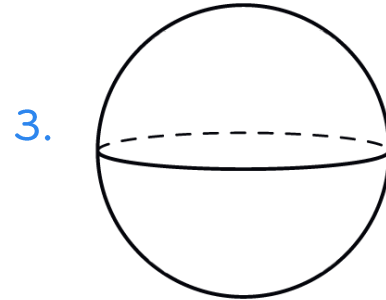
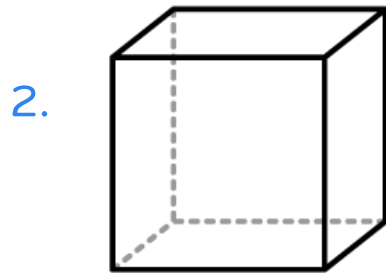
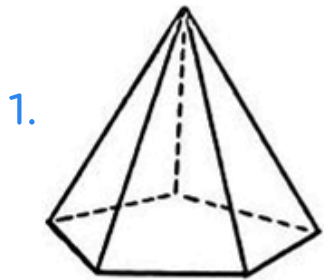
Can you show your working out?

The **diameter** of a large circle is **17.5** centimetres.

Calculate the **diameter** of a small circle.

How could you extend the question?

Name these shapes and count the faces, edges and vertices:



Faces:

Edges:

Vertices:

F:

E:

V:

F:

E:

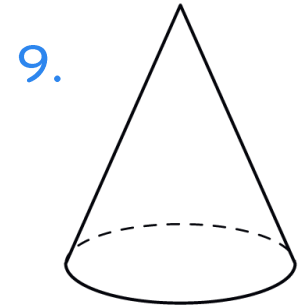
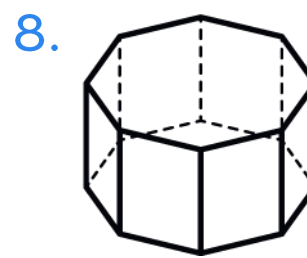
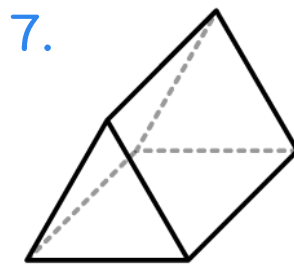
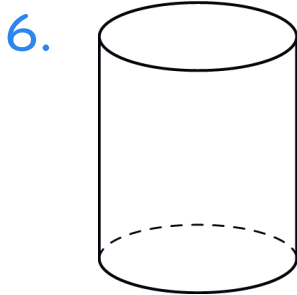
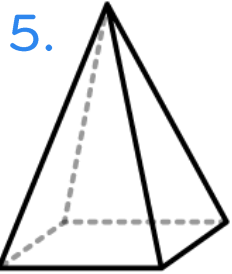
V:

F:

E:

V:

Name these shapes and count the faces, edges and vertices:



F:

E:

V:

F:

E:

V:

F:

E:

V:

F:

E:

V:

F:


E:

V:

Question 3




Complete

 What do you notice?

Jack has two **square-based pyramids** that are the same size.


He sticks the square faces together to make a new 3-D shape.

How many **faces** and how many **edges** does his new 3-D shape have?

What do you know? 

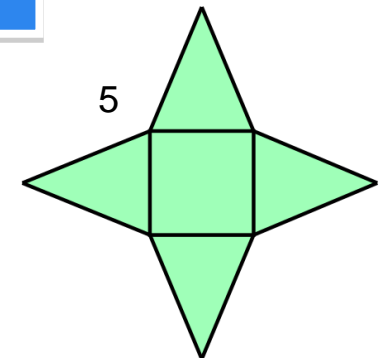
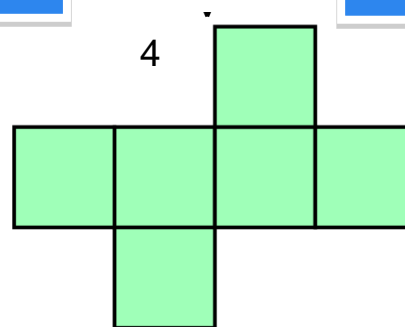
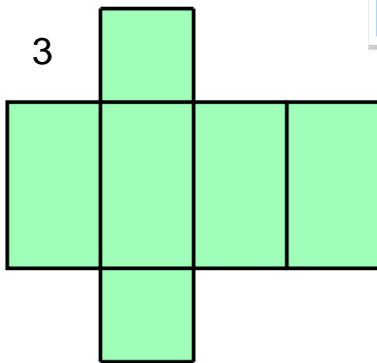
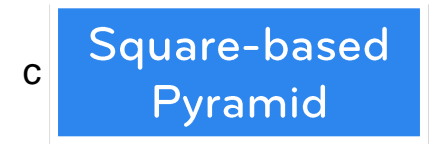
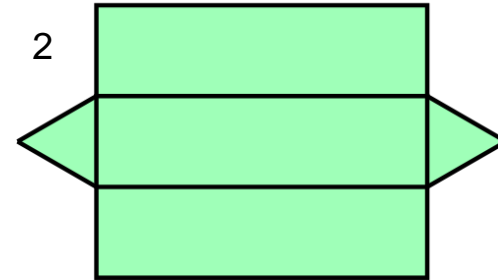
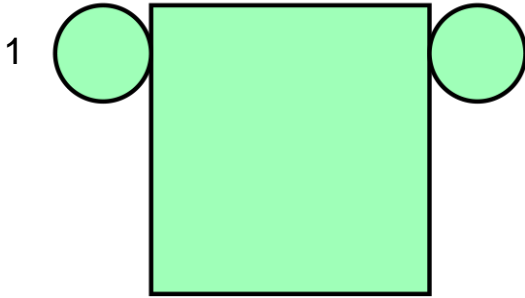
 Can you show your working out?

 and

How could you extend the question? 

Revision: Match nets to common 3D solids

Draw lines to link the nets to their **correct** names of solids.



Question 4



Complete

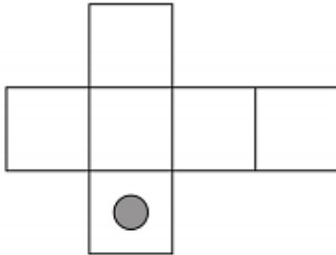
What do you notice?

Here are three nets of a cube.

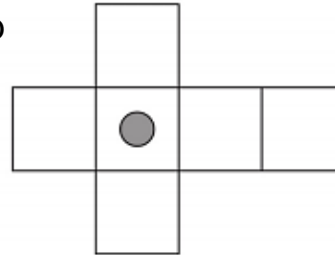
On each net draw **one more dot** so that each cube will have dots on **opposite** faces.



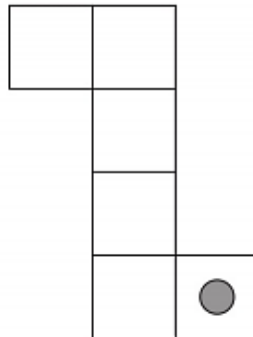
a



b



c

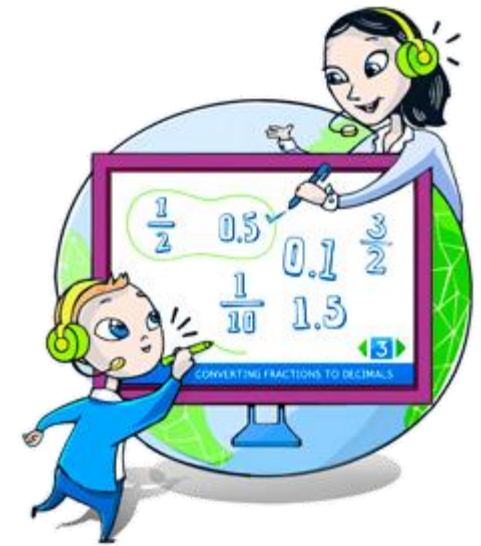


What do you know?

Can you show your working out?

How could you extend the question?

Revision on geometry – properties of shapes



Now we are going to revise:



angles that meet at right angles, straight lines or around a point

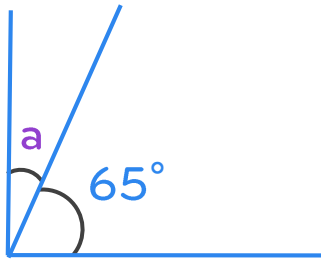


finding unknown angles in different types of triangles

Revision: Angles meeting at right angles, straight lines and around a point

1. Find the missing angles.

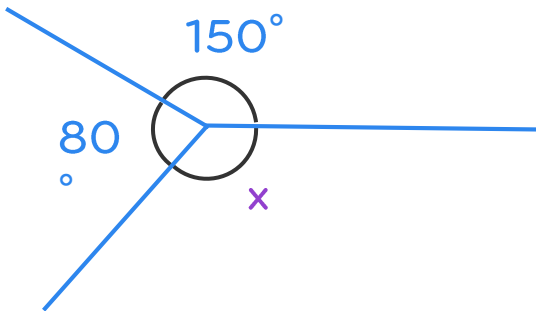
a)



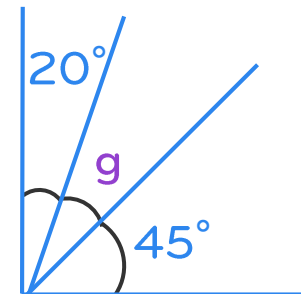
b)



c)



d)



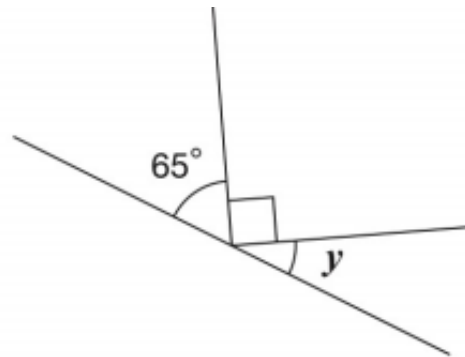
Question 5



Complete

What do you notice?

What do you know?




Can you show your working out?

Calculate the size of angle y in this diagram.

Do **not** use a protractor (angle measurer).

How could you extend the question?

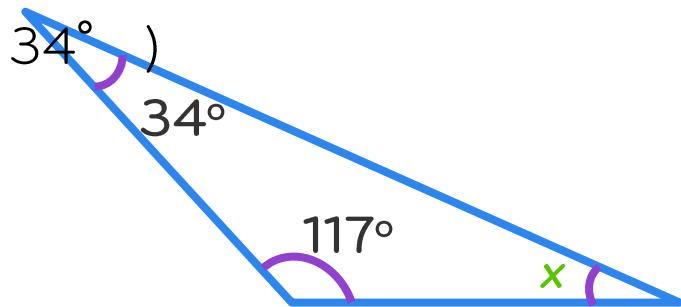
 $y = \boxed{}^\circ$

Revision: Interior angles of shapes

Angles in a triangle

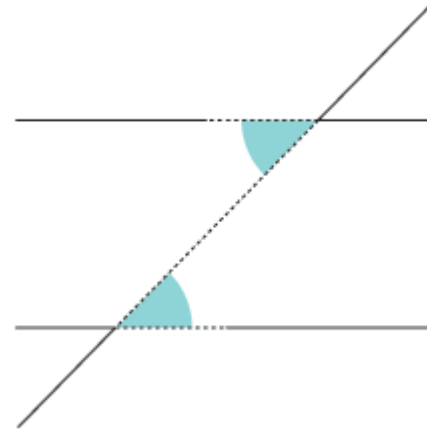
The sum of all interior angles of a triangle = 180°

So angle $x = 180^\circ - (117^\circ +$

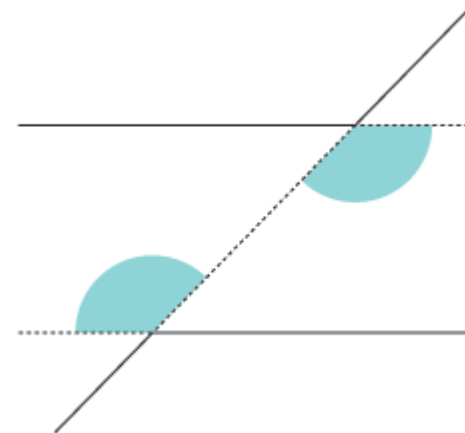


$x =$

Alternate angles



On parallel lines, alternate (z) angles are equal



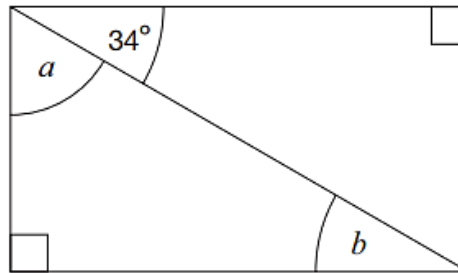
Question 6



Complete

What do you notice?

Here is a rectangle.




Not to scale

What do you know?

Can you show your working out?

Calculate the size of angles a and b .

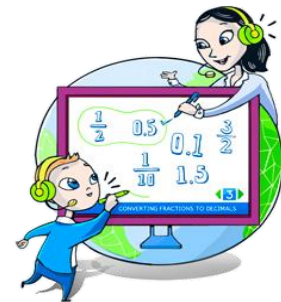
Do not measure the angles.





 $a =$

$b =$

How could you extend the question?

Let's review:



-  Know the names and properties of 2D and 3D shapes
-  Can work with nets of 3D shapes
-  Can calculate missing angles that meet at a right angle, on a straight line or around a point
-  Can find missing angles using alternate angles and angles in triangles

Draw a circle around the smiley face to show how you feel about what we've just been doing.



Is there something you would like to go over?