THIRD SPACE LEARNING

HELLO!

Today we are going to revise geometry - properties of shapes

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Arithmetic Warm Up
Powers and roots

1. $\sqrt{49} =$ ☐

2. $\sqrt{81} + 5 \times 4 =$ ☐

3. $6^2 =$

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

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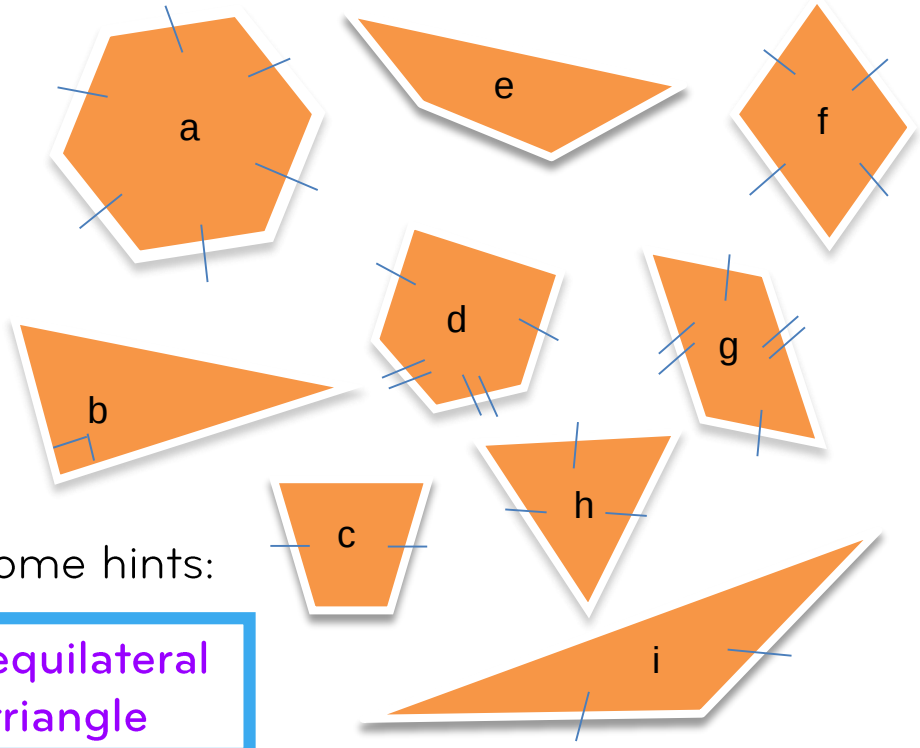
Revision on properties of shapes

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

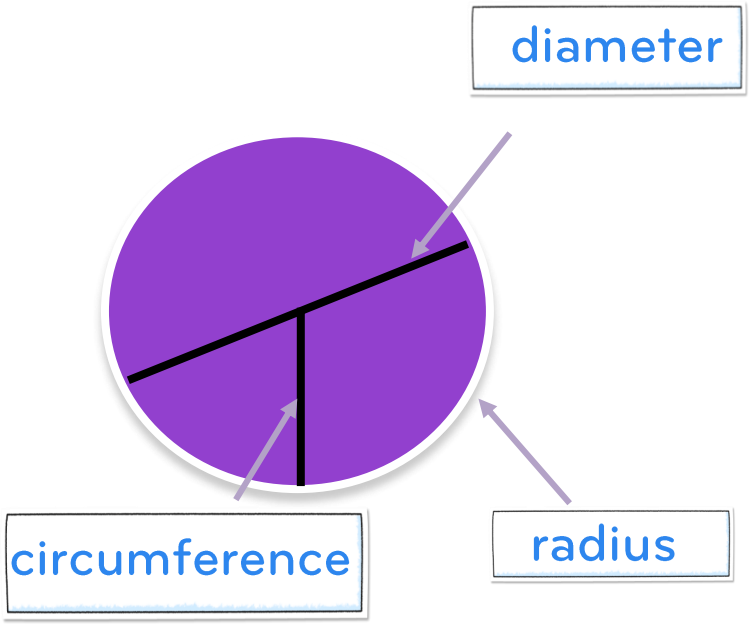
isosceles triangle

trapezium

rhombus

scalene triangle

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



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

Question 1

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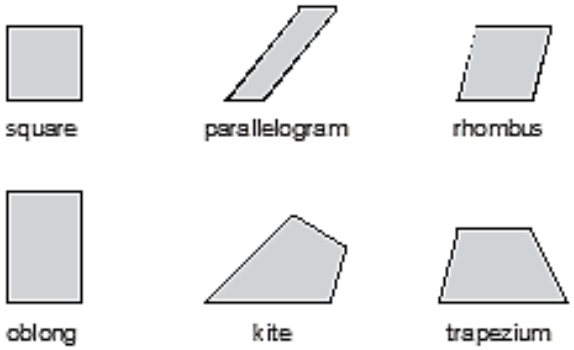
Complete

What do you notice?

What do you know?

Here are six quadrilaterals with their mathematical names.



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? .....

Can you show your working out?

How could you extend the question?

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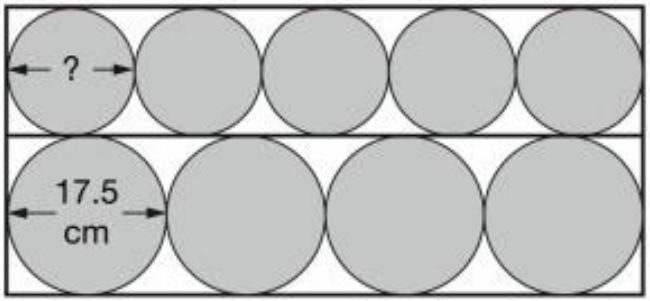
Question 2

Complete

What do you notice?

What do you know?

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



Not actual size

Can you show your working out?

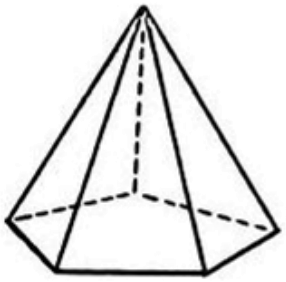
How could you extend the question?

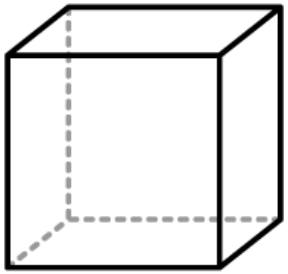
The **diameter** of a large circle is **17.5** centimetres.

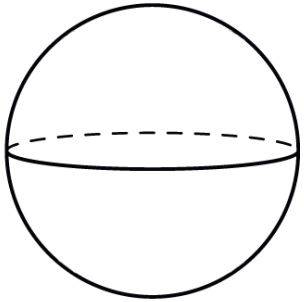
Calculate the **diameter** of a small circle.

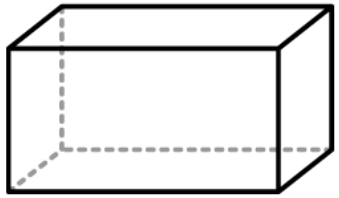
Revision: Properties of 3D shapes

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

1. 

2. 

3. 

4. 

Faces:	**F:**	**F:**	**F:**
Edges:	**E:**	**E:**	**E:**
Vertices:	**V:**	**V:**	**V:**

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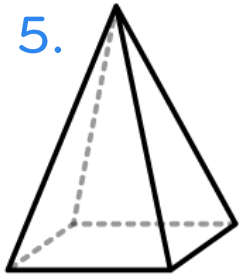
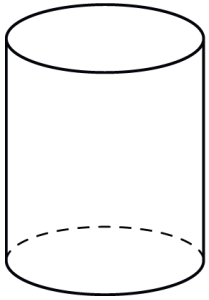
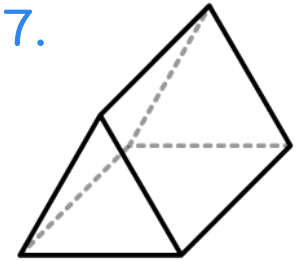
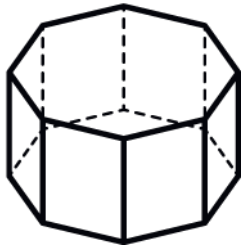
Revision: Properties of 3D shapes

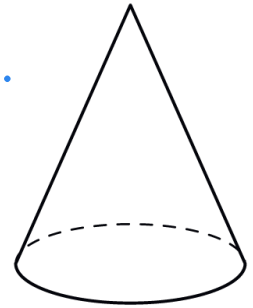
Name these shapes and count the faces, edges and vertices:

5. 

6. 

7. 

8. 

9. 

F: E: V:	F: E: V:	F: E: V:	F: E: V:	F: E: V:

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Question 3

Complete

What do you notice?

What do you know?

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?

_____ **faces** and _____ **edges**

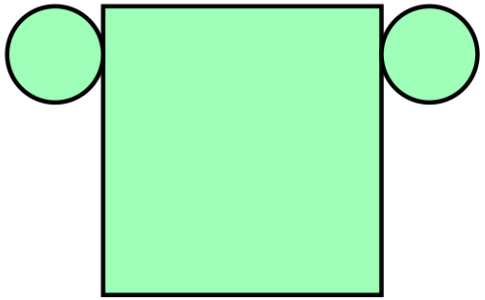
Can you show your working out?

How could you extend the question?

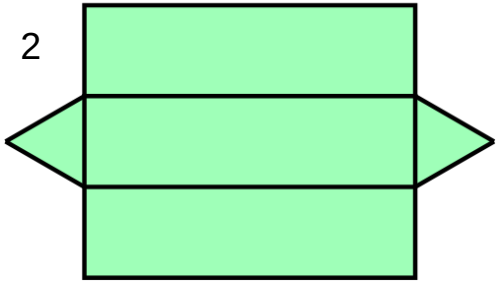
Revision: Match nets to common 3D solids

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

1



2



a Cuboid

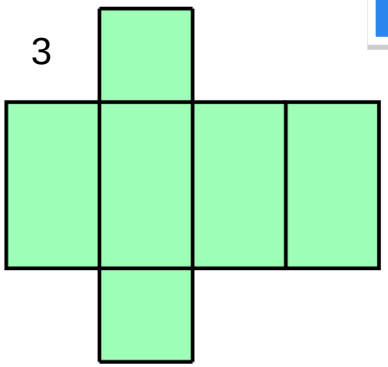
b Triangular Prism

c Square-based Pyramid

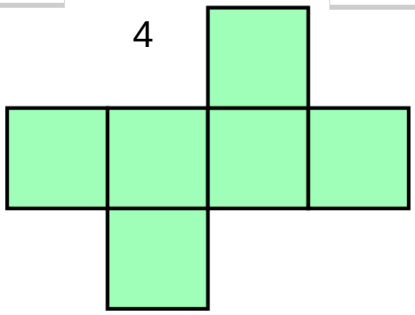
d Cylinder

e Cube

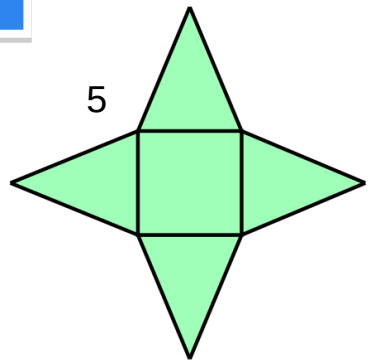
3



4



5



Question 4

Complete

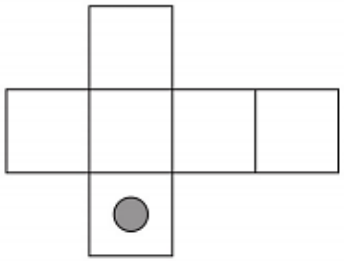
What do you notice?

What do you know?

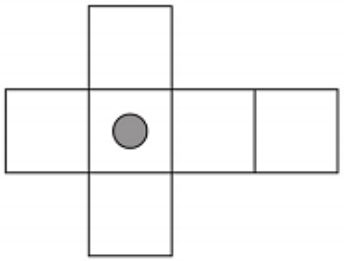
Here are three nets of a cube.

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

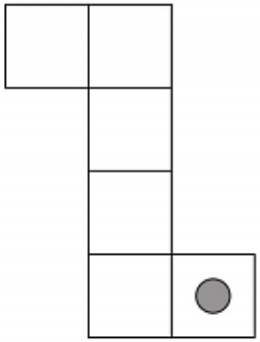
a



b



c



Can you show your working out?

How could you extend the question?

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Revision on geometry – properties of shapes

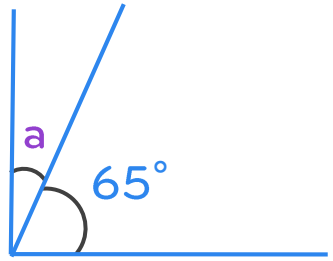
Now we are going to revise:

- 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

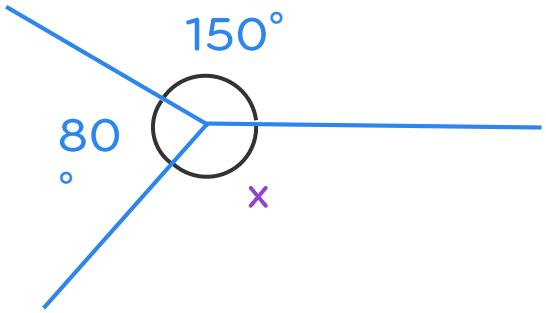
1. Find the missing angles.

a)

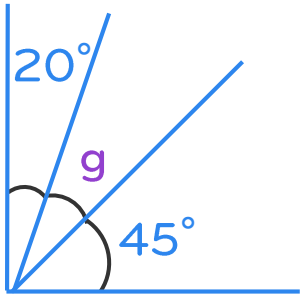


b)

c)



d)



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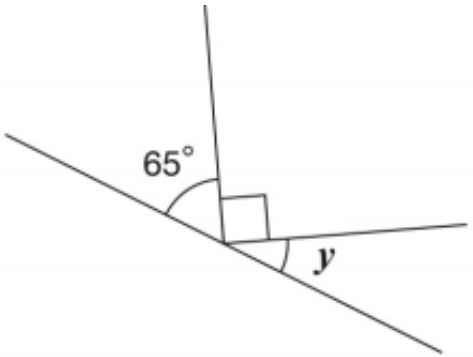
Question 5

Complete

What do you notice?

What do you know?



Not to scale

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?

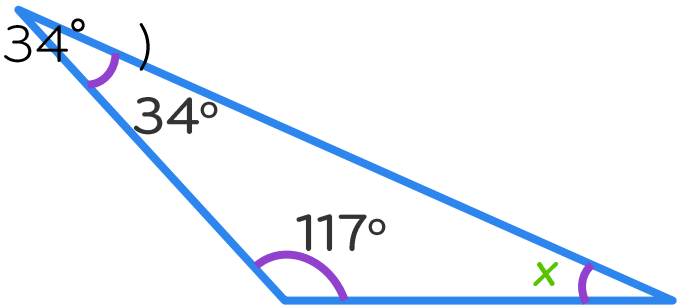
$y =$ ____ °

Revision: Interior angles of shapes

Angles in a triangle

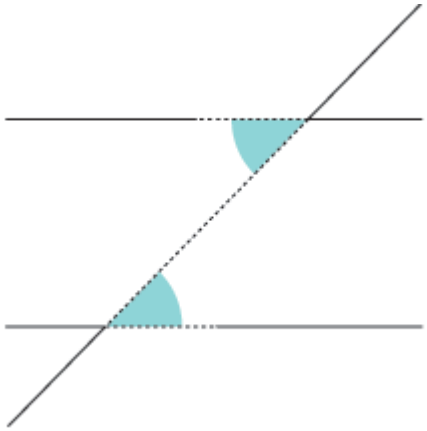
The sum of all interior angles of a triangle = 180 °

So angle x = 180° − (117° + 34°)

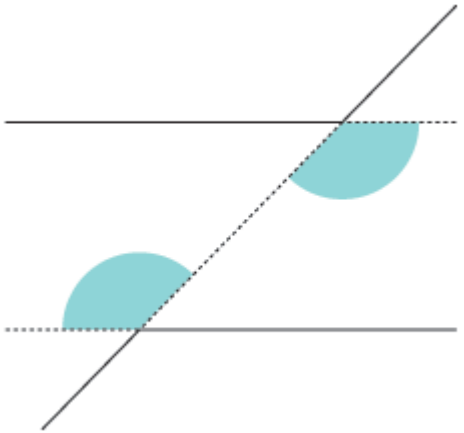


X =

Alternate angles



On parallel lines, alternate (z) angles are equal



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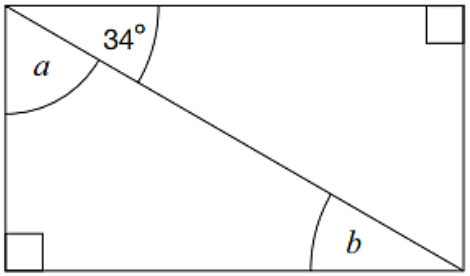
Question 6

Complete

What do you notice?

What do you know?

Here is a rectangle.



Not to scale

Can you show your working out?

Calculate the size of angles a and b.

Do not measure the angles.

How could you extend the question?

$a =$ ____ °

$b =$ ____ °

THIRD SPACE LEARNING

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?