# Week 11, Day 4
2-D shapes (1)

Each day covers one maths topic. It should take you about 1 hour or just a little more.

1. Start by reading through the **Learning Reminders**.
   They come from our *PowerPoint* slides.
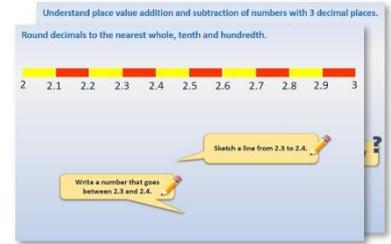
2. Tackle the questions on the **Practice Sheet**.
   There might be a choice of either Mild (easier) or
   Hot (harder)!
   Check the answers.
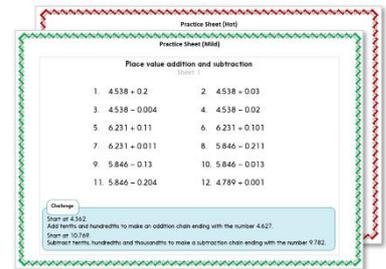
3. Finding it tricky? That's OK… have a go with a
   grown-up at **A Bit Stuck?**
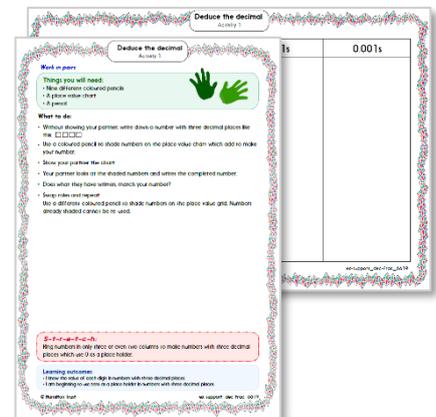
4. Think you've cracked it? Whizzed through the Practice Sheets?
   Have a go at the **Investigation**…

Learning Reminders

Describe, name and sort 2-D shapes.
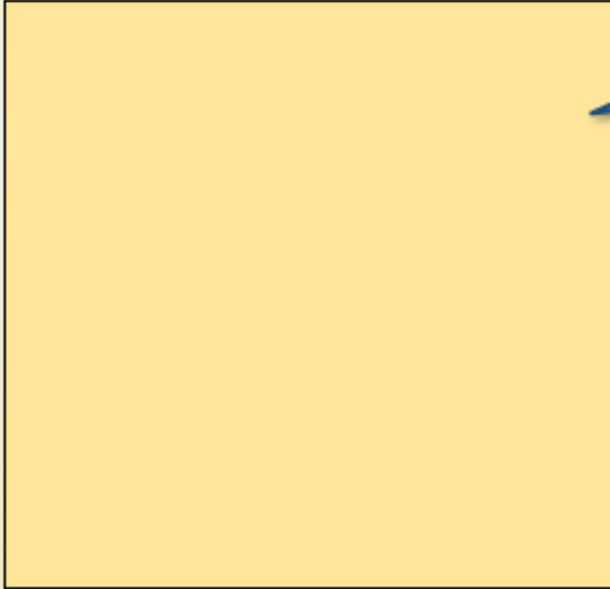
What is this shape called? **A square**

It has 4 **sides**.

The sides are all the same **length**.

It has 4 **right angles**.

It has 4 lines of **symmetry**.

It is a **polygon** because it has all straight sides.

Look at the **words** we used to describe the square.

Learning Reminders

Describe, name and sort 2-D shapes.
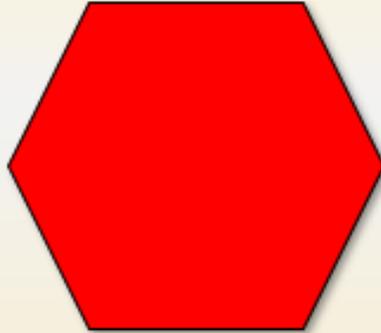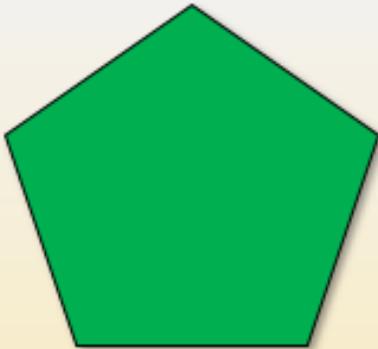
These are all **regular** shapes.

Regular shapes have **sides** of the same length and **angles** the same size.

Learning Reminders
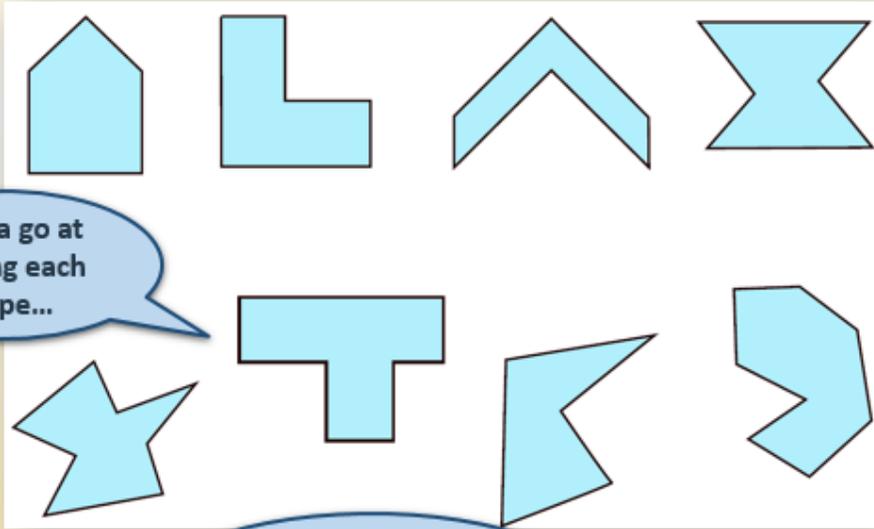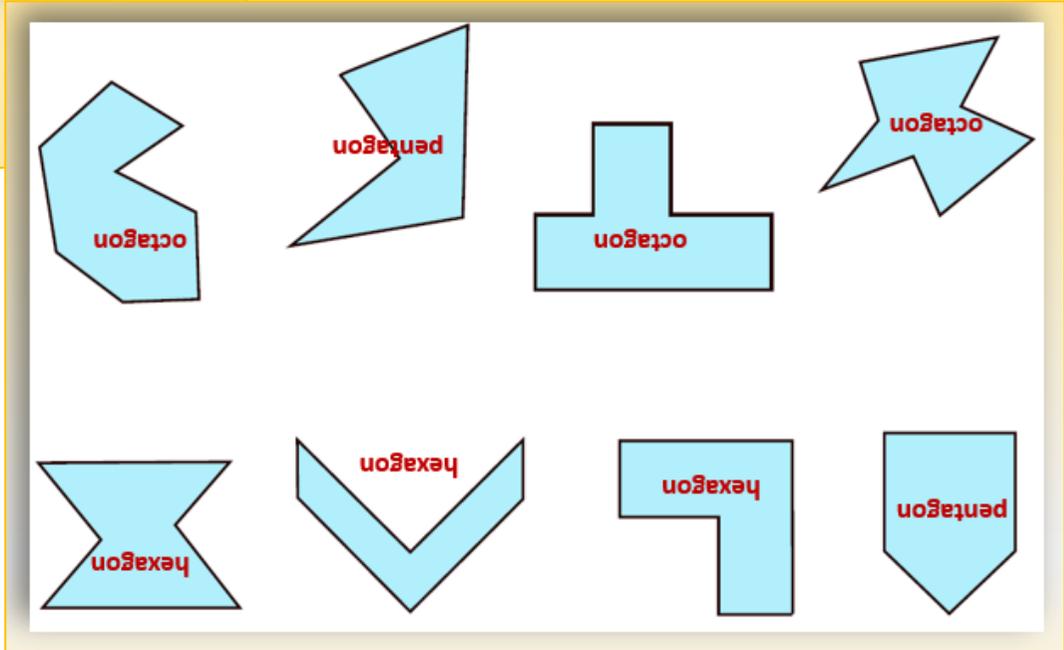
Practice Sheet Mild
Odd one out

Ring the odd one out in each set. Write why that shape is different.

Practice Sheet Hot
Regular and irregular shapes

Draw regular and irregular pentagons, hexagons and octagons in this diagram.

Feel free to make your irregular shapes look as 'weird' as you like!

|	Regular shapes	Irregular shapes
Pentagons		
Hexagons		
Octagons		

Challenge

Draw a symmetrical, irregular hexagon.

Practice Sheets Answers

Odd one out (mild)
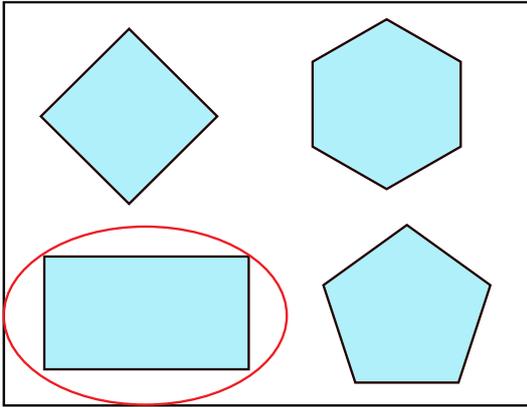
The other shapes are regular polygons.
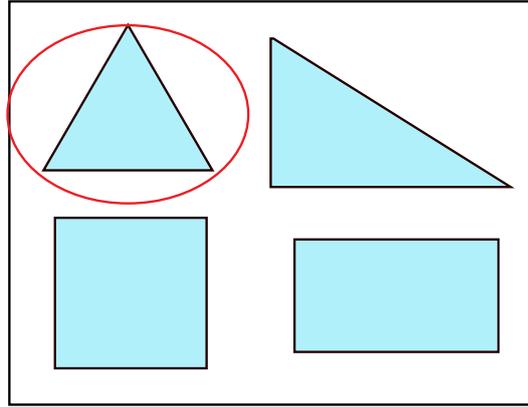
The other shapes all have at least one right angle.
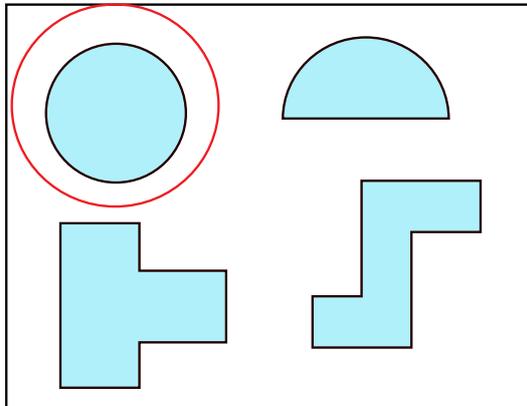
This is the only shape which doesn't have at least one straight side.
The semicircle could also be the odd one out as it has both straight and curved sides.
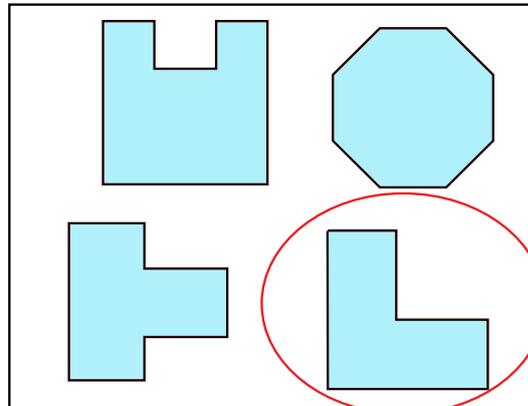
The other shapes are all octagons.
The top right could also be the odd one out as it is the only regular polygon.

## Regular and irregular shapes (hot)

Check that shapes in the left-hand column ARE regular. Accept any shapes with 5, 6 and 8 straight sides in the irregular column. See table below for examples.

	Regular shapes	Irregular shapes
Pentagons		
Hexagons		
Octagons		

Remember…

- Pentagons have 5 straight sides which join to make a shape.
- Hexagons have 6 straight sides which join to make a shape.
- Octagons have 8 straight sides which join to make a shape.
- All the sides do NOT have to be the same length! Pentagons, hexagons and octagons can look REALLY interesting!

pentagons

hexagons

octagons

S-t-r-e-t-c-h:
Now draw at least two more shapes to go in each set.

Don't make a triangle
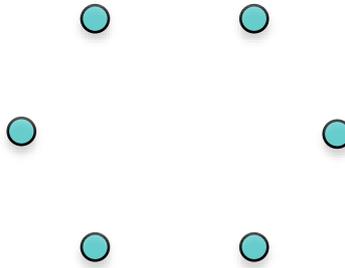
1. Draw an arrangement of dots like the one above.

2. Take turns to play.

3. Each player uses a different colour pen.

4. Players take turns to draw a line segment (this is a line connecting 2 dots). Try not to form a triangle in your colour.

5. If you form a triangle consisting of lines drawn in your colour, you lose!

6. The first person to force their opponent to draw a triangle wins.

purple wins
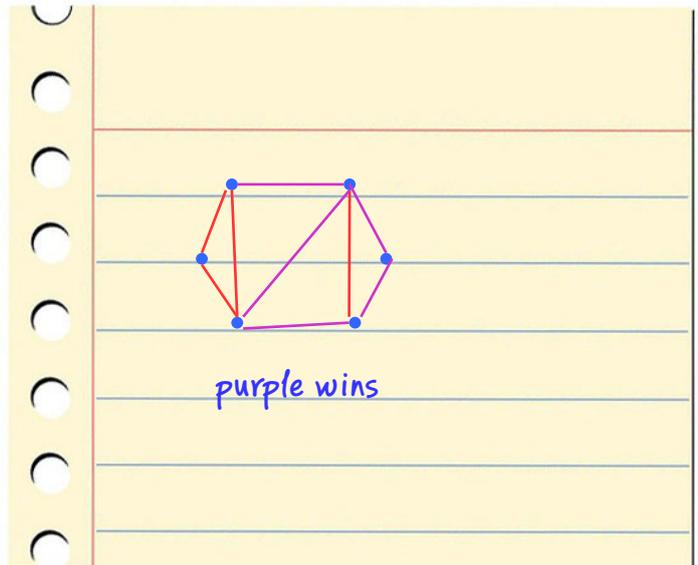
It is possible (but hard!) to force your opponent to draw a triangle. Do you have to start the game to do this?