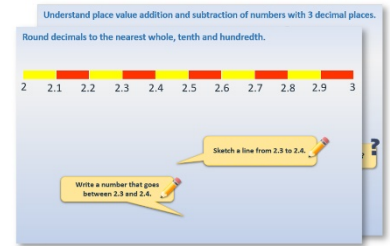


Week 8, Day 5

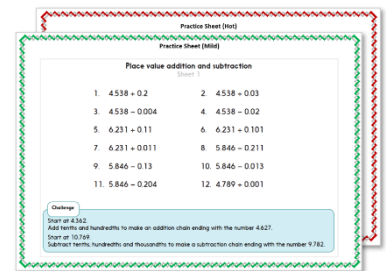
Sort quadrilaterals

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

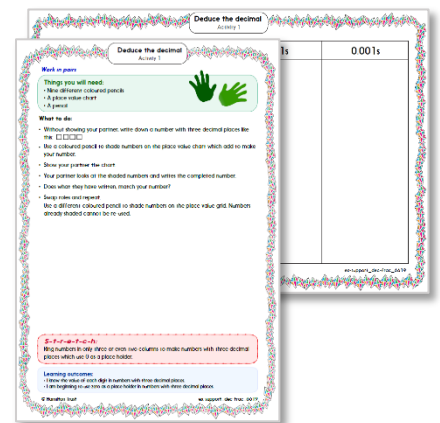
1. Start by reading through the **Learning Reminders**. They come from our *PowerPoint* slides.



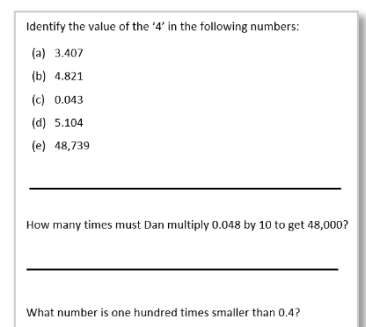
2. Tackle the questions on the **Practice Sheet**. There might be a choice of either **Mild** (easier) or **Hot** (harder)! Check the answers.



3. Finding it tricky? That's OK... have a go with a grown-up at **A Bit Stuck?**




4. Have I mastered the topic? A few questions to **Check your understanding**. Fold the page to hide the answers!



Learning Reminders

Compare and classify quadrilaterals, based on properties including types of angles.



What is the same and what is different about these **quadrilaterals**?

Both have a pair of sides the same distance away from each other, like train tracks. We call these **parallel lines**.



Parallelogram



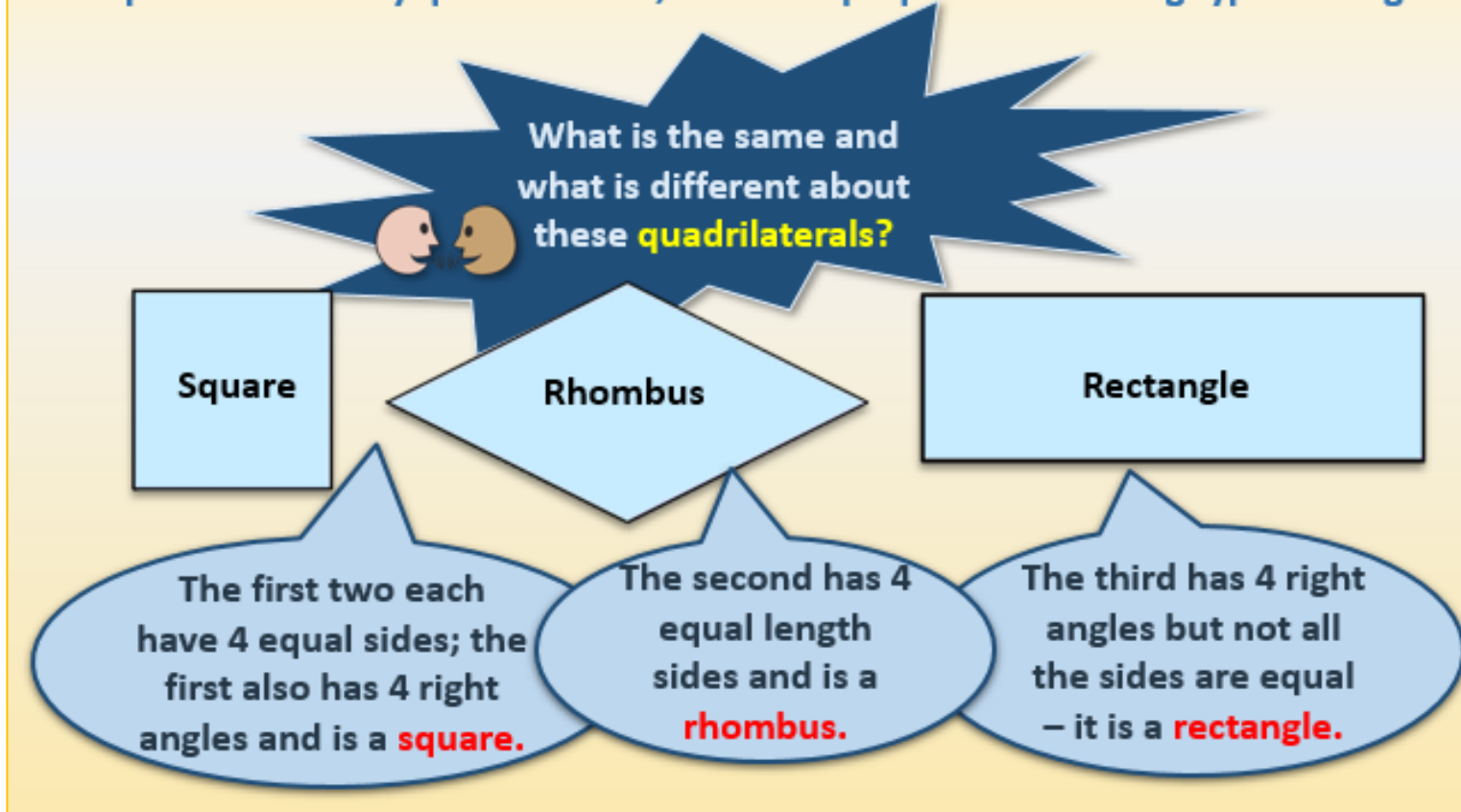
Trapezium

The first quadrilateral has **two sets of parallel lines** and is a **parallelogram**.

The second has **one set of parallel lines** and is a **trapezium**.

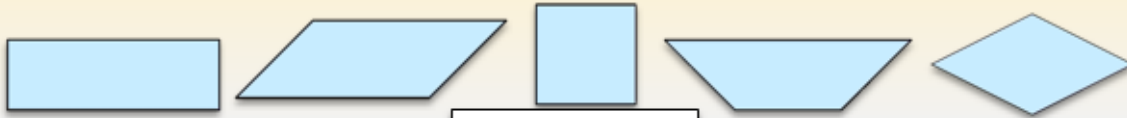
Learning Reminders

Compare and classify quadrilaterals, based on properties including types of angles.



Learning Reminders

Compare and classify quadrilaterals, based on properties including types of angles.

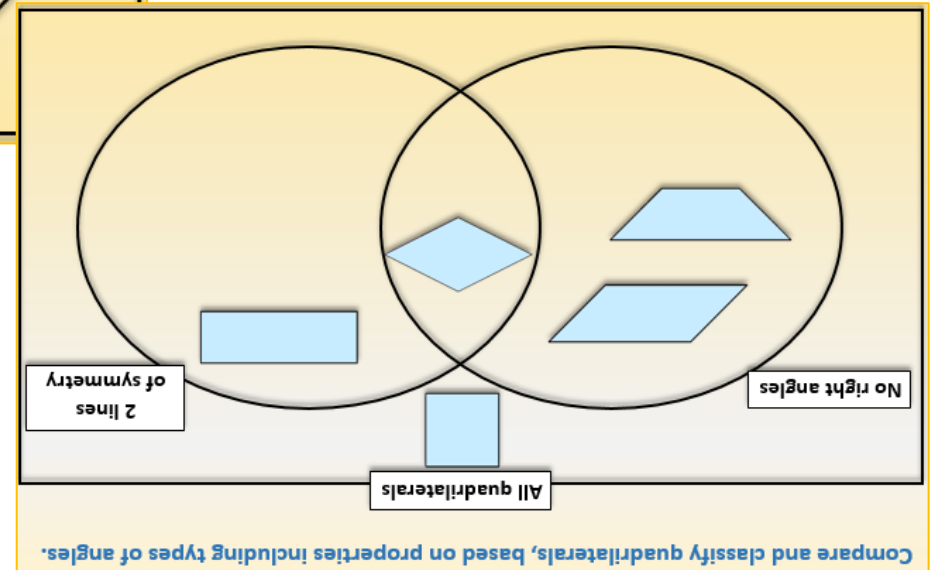


All quadrilaterals

No right angles

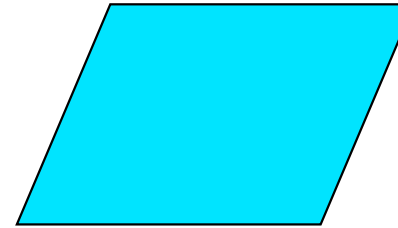
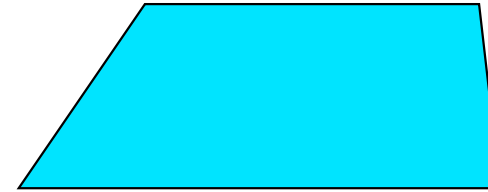
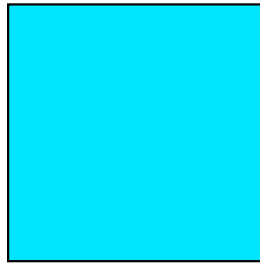
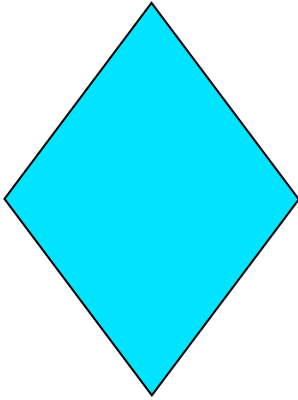
2 lines of symmetry

Where will each of the quadrilaterals go in this Venn diagram?



Practice Sheet All Children

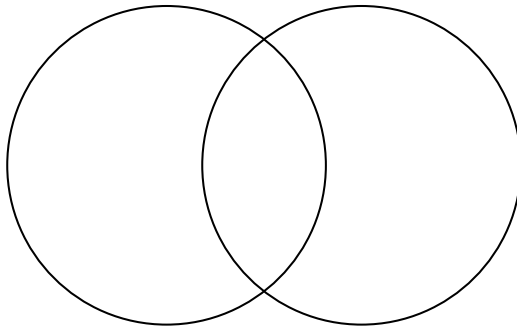
Sorting quadrilaterals



Cut out the quadrilaterals. Copy the Venn diagram and sort the shapes into the correct places.

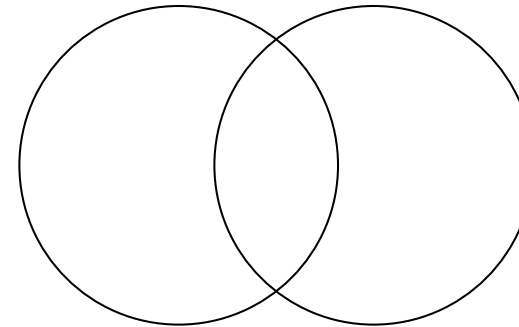
All sides are the same length

Four right angles



Has at least one pair of parallel sides

Symmetrical



HOT: Tackle this Challenge too!

Now find your own way to sort the quadrilaterals. Your Venn diagram might even have 3 hoops!

Practice Sheet Answers

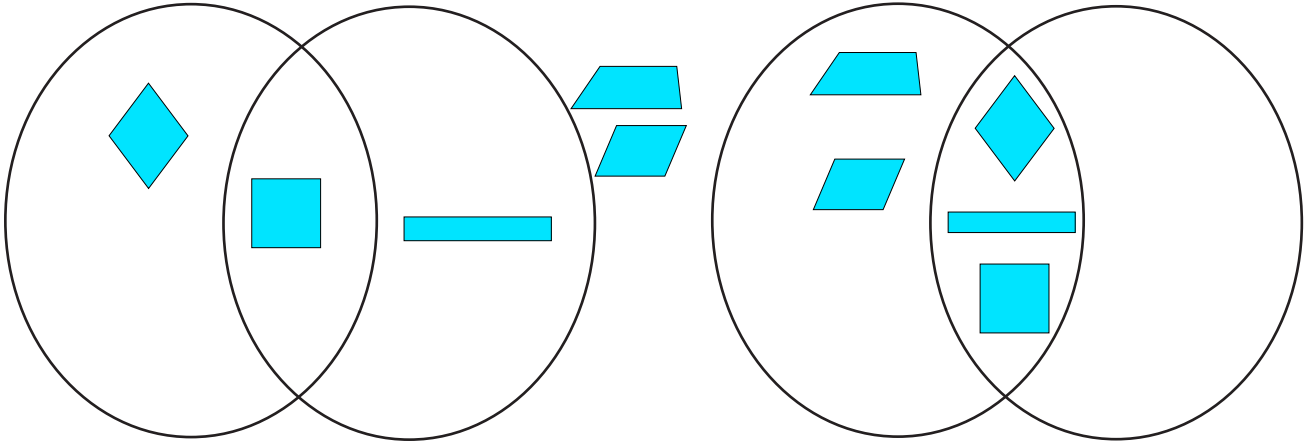
Sorting quadrilaterals

All sides are the same length

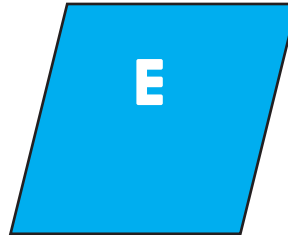
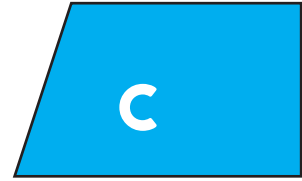
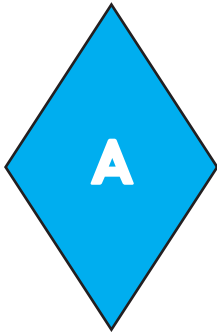
Four right angles

Has at least one pair of parallel sides

Symmetrical



A Bit Stuck?
Who am I?



What to do:

Use these clues to guess the quadrilateral:

1. I have 4 right angles.
I have two pairs of sides the same length.
Who am I?
2. I have four sides the same length.
I have two pairs of parallel sides.
I have no right angles. I have two acute angles and two obtuse angles.
Who am I?
3. I have one pair of parallel sides.
I have no sides the same length.
I have two acute angles and two obtuse angles.
Who am I?
4. I have two pairs of parallel sides.
I have two pairs of sides the same length.
I have no right angles. I have two acute angles and two obtuse angles.
Who am I?

S-t-r-e-t-c-h:

Write your own clues for the quadrilateral that is left over...

Check your understanding:

Questions

True or false?

- A triangle cannot have two right angles.
 - A triangle with one right angle cannot be isosceles.
 - A quadrilateral cannot have *exactly* three right angles.
 - A quadrilateral can always be divided into two triangles by drawing just one straight line.
-

Sketch the following:

- (a) A triangle with one obtuse angle.
 - (b) A quadrilateral with two obtuse angles.
 - (c) A triangle with three sides of identical length.
 - (d) A quadrilateral that has two lines of symmetry but no right angles.
 - (e) A quadrilateral with two pairs of parallel lines but no right angles.
-

Answers on the next page

Check your understanding:

Answers

True or false?

- A triangle cannot have two right angles. **True.** Since the 3 angles must add to 180° , if two are right angles there is nothing left for the third angle.
 - A triangle with one right angle cannot be isosceles.
False, a right angled isosceles triangle has one angle of 90° and two of 45° .
 - A quadrilateral cannot have *exactly* three right angles. **True** since then the fourth would also be a right angle, as the total is 360° .
 - A quadrilateral can always be divided into two triangles by drawing just one straight line. **True** – the line will join a pair of opposite corners.
-

Sketch the following:

- (a) A triangle with one obtuse angle.
- (b) A quadrilateral with two obtuse angles.
- (c) A triangle with three sides of identical length.
- (d) A quadrilateral that has two lines of symmetry but no right angles.
- (e) A quadrilateral with two pairs of parallel lines but no right angles.

Many different examples are possible. Check that the drawings meet criteria – in the case of (d) and (e) two different aspects need to be considered. They should be drawn using a ruler and sharp pencil to draw accurately. Often mistaken drawings will be the result of not understanding the vocabulary.