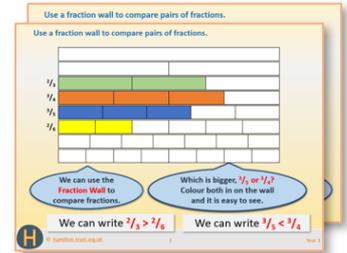


Year 6: Week 4, Day 5

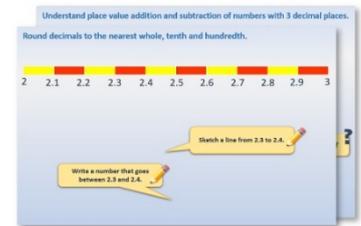
Quadrilaterals

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

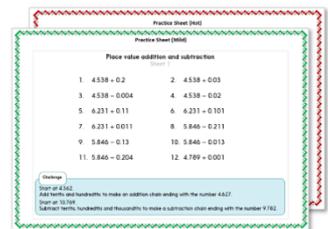
1. If possible, watch the **PowerPoint presentation** with a teacher or another grown-up.



OR start by carefully reading through the **Learning Reminders**.



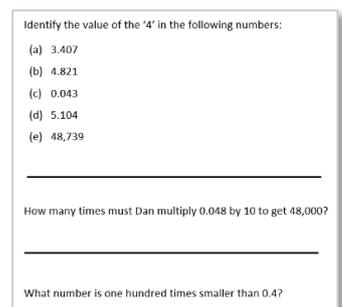
2. Tackle the questions on the **Practice Sheet**. There might be a choice of either **Mild** (easier) or **Hot** (harder)! Check the answers.



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

Classify and sort quadrilaterals.

- Draw two different quadrilaterals (4 straight sides).
- Describe your shapes and agree what is different and what is the same about them.

Does one shape have at least one pair of parallel sides? What shape is it?

Does one shape have at least one pair of perpendicular sides? What shape is it?

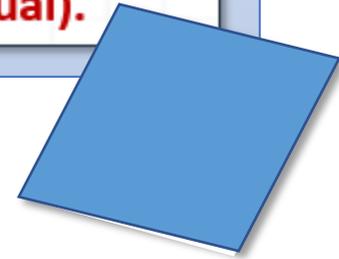
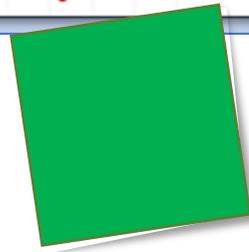
Does one shape have four right angles? What shape is it?

Does one shape have four equal sides? What shape is it?

Rectangles have four right angles.

Squares have four right angles AND four equal sides.

A rhombus has equal sides, but two different angle sizes (opposite angles equal).



Learning Reminders

Classify and sort quadrilaterals.

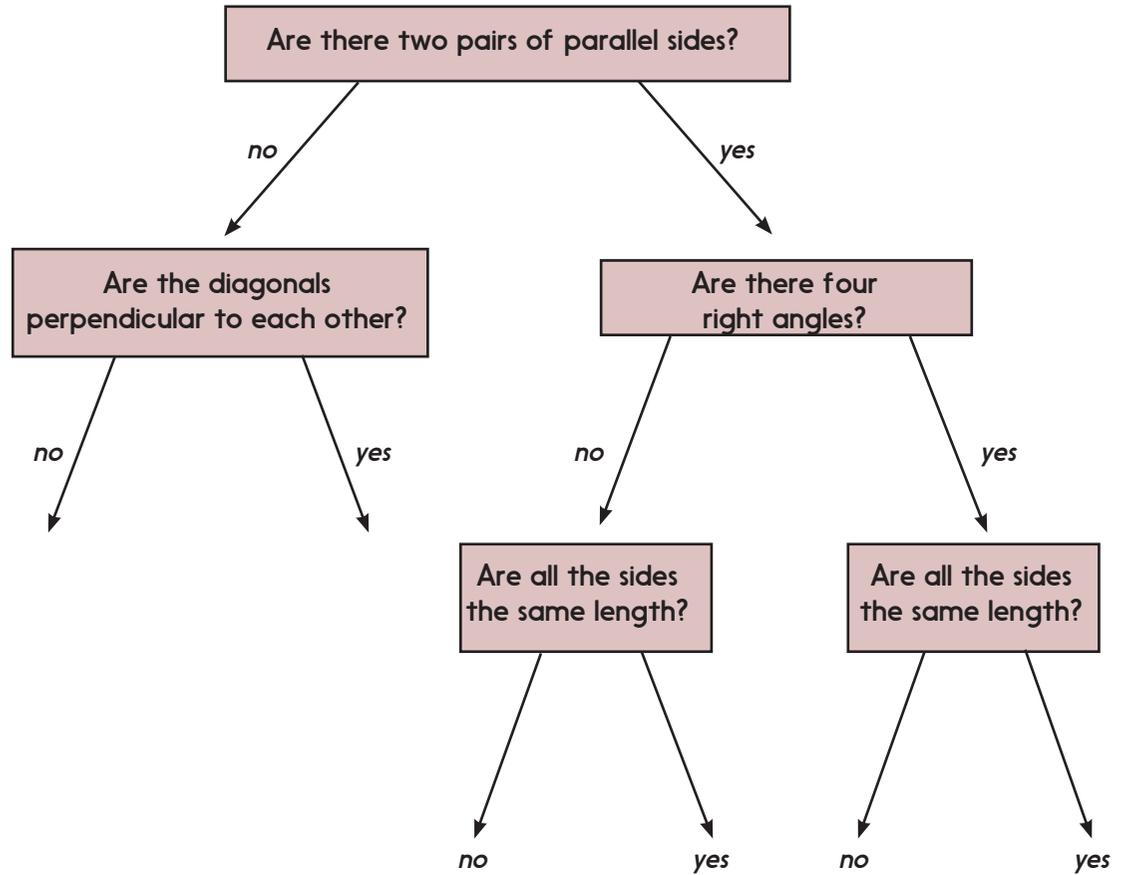
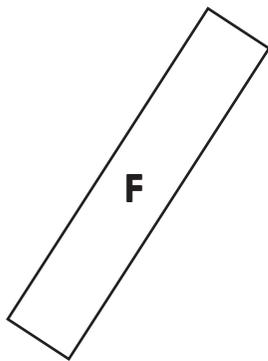
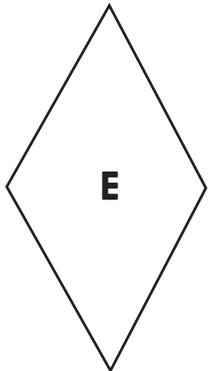
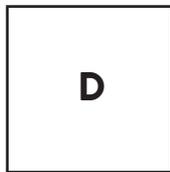
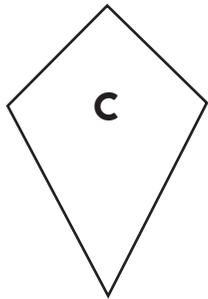
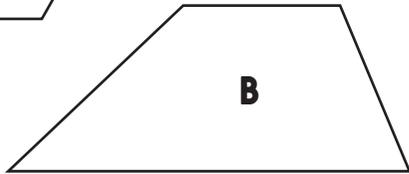
What criteria could we use to sort these quadrilaterals in this Venn diagram?

E.g. at least 1 pair of parallel sides, at least 1 line of symmetry, 4 equal length sides, equal opposite angles, one or two pairs of parallel sides, 4 right angles...

Practice Sheet Mild

Quadrilateral sort

Sort each of the shapes using the diagram - what is the name of each?



Practice Sheet Hot

Quadrilateral challenge

Discuss the questions below with a partner. Write your answers in your book, and use diagrams to illustrate your answers.



Can you draw a...

1. Quadrilateral with exactly 3 right angles? If so can you name it?
2. Quadrilateral with exactly 2 right angles? If so can you name it?
3. Symmetrical quadrilateral with exactly 1 right angle? If so can you name it?
4. Quadrilateral with exactly 3 equal sides? If so can you name it?
5. Quadrilateral with no right angles and two pairs of equal sides that are next to each other. If so, can you name it?
6. Quadrilateral with two pairs of opposite equal sides and no right angles. If so can you name it?
7. Trapezium with no lines of symmetry.
8. A quadrilateral with no equal sides or angles.

Challenge

Does the quadrilateral you drew in (8) tessellate?

Tessellate means that repeated copies of it fit together with no gaps.

Practice Sheets Answers

Quadrilateral sort (mild)

- A = Parallelogram
- B = Trapezoid
- C = Kite
- D = Square
- E = Rhombus

Quadrilateral challenge (hot)

1. No quadrilateral can have exactly 3 right angles. Exactly 2 are possible (see Q2), as are exactly 4, but not 3.
2. Shapes created will either be a form of trapezium, or a kite, or an irregular quadrilateral.
3. Kite
4. No quadrilateral can have exactly 3 equal sides. Exactly 2 are possible (e.g. trapezoid), as are exactly 4 (square, rhombus) but not 3.
5. Kite
6. Parallelogram
7. Yes, various examples may be drawn
8. Yes, various examples may be drawn

A Bit Stuck? What's special?

Things you will need:

- A sheet of quadrilaterals
- Scissors
- Ruler
- Right angle measurer (you could use the corner of a sheet of paper or a book)
- A Carroll diagram sheet
- Glue stick
- A pencil



What to do:

1. Cut out the quadrilaterals.
2. Take one and discuss where it belongs on the diagram.
3. Once you are agreed, stick it in the correct place on the sheet.
4. Repeat with each quadrilateral, one at a time.

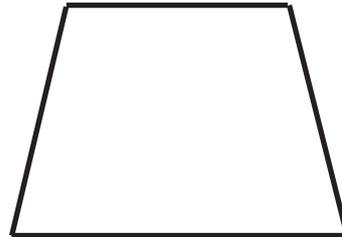
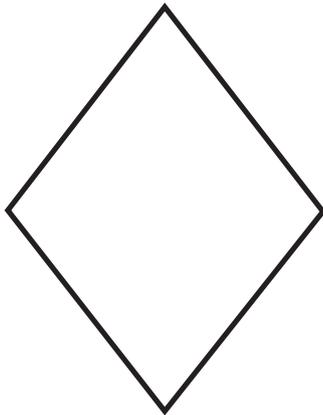
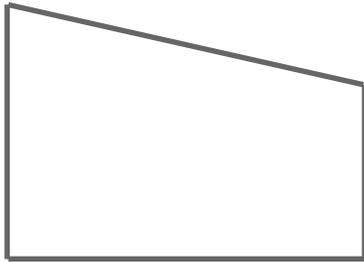
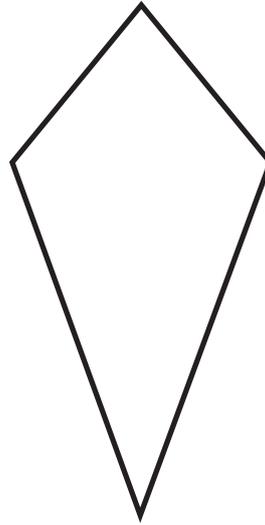
S-t-r-e-t-c-h:

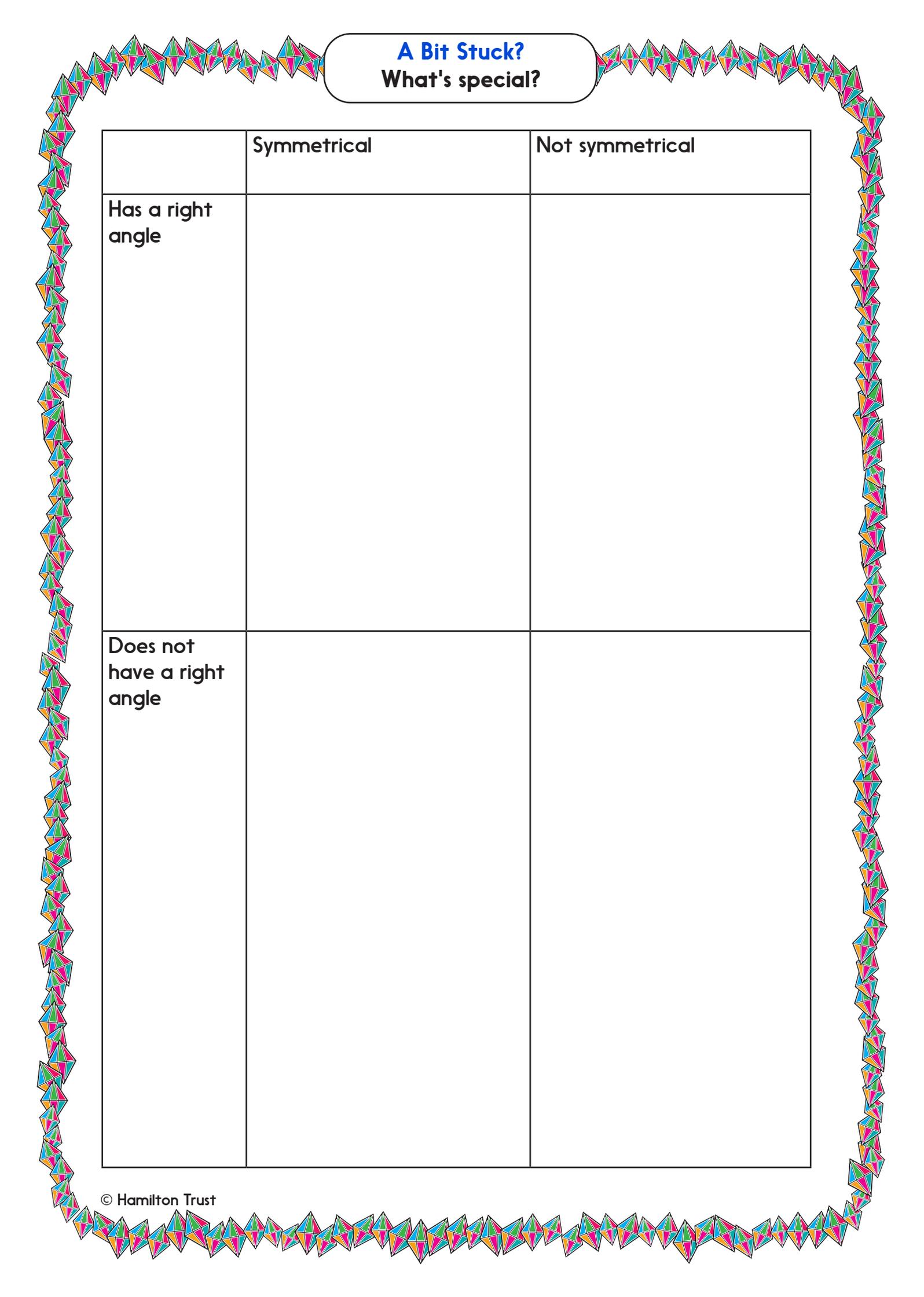
Choose a different way to sort the quadrilaterals.

Learning outcomes:

- I can identify and describe properties of quadrilaterals.
- I can sort quadrilaterals according to their properties.
- I am beginning to find my own way to sort quadrilaterals.

A Bit Stuck?
What's special?





A Bit Stuck?
What's special?

	Symmetrical	Not symmetrical
Has a right angle		
Does not have a right angle		

Check your understanding

Questions

Mystery quadrilaterals

- I have one pair of non-equal parallel sides. What am I?
- I have two pairs of equal sides, but no sides are parallel. Two opposite angles are equal but not the other two. What am I?
- I have four equal sides but no right angles. What am I?
- I have two pairs of parallel sides and no right angles. What am I?

Fold here to hide answers

Check your understanding

Answers

Mystery quadrilaterals

- I have one pair of non-equal parallel sides. What am I? **A trapezium.**
- I have two pairs of equal sides, but no sides are parallel. Two opposite angles are equal but not the other two. What am I? **A kite.**
- I have four equal sides but no right angles. What am I? **A rhombus.**
- I have two pairs of parallel sides and no right angles. What am I? **A parallelogram.**

Children will find it helpful to sketch the shapes in questions like these.