

Notes for Maths Online Learning

- You will need a pencil and a piece of paper, if you have a pad you can keep working from this would be ideal.
- All MyMaths Online lessons will have unlimited availability for you to complete. We will be able to access it each day to see how you got on and if you have completed the task we have set.
- After some sessions there will be a '**extra**' activity if you would like some additional reasoning work to do.
- We will endeavor to provide lessons and activities which you will not need to print off.



St Catherine's Classroom Beliefs

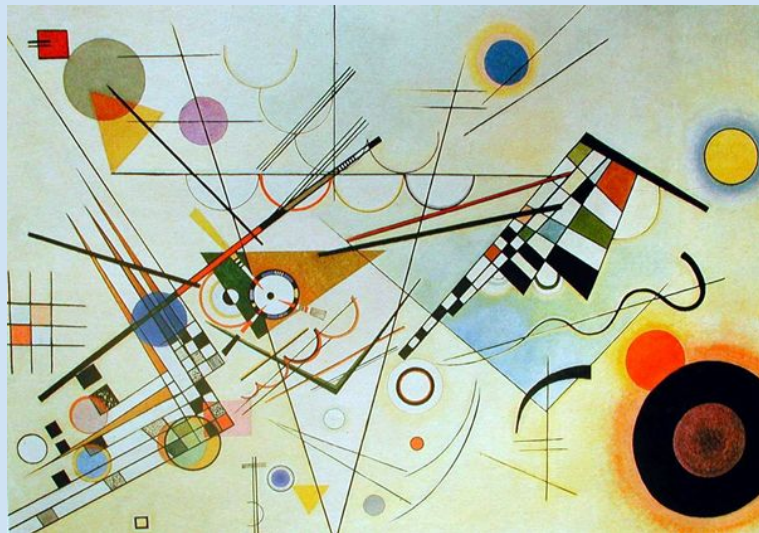
- Mistakes are valuable.
- Everyone can learn maths to the highest level.
- Questions are really important.
- Depth is more important than speed.
- Maths is about making connections.

Session 1



Shape: Lines

- To know the difference between parallel and perpendicular lines
- To know the difference between horizontal and vertical lines
- Identify lines within a shape
- Identify lines in real life
- Re cap learning from year 3



Monday 22nd June

Maths Chat

Did you know there are different ways to describe lines?

What do you think those might be?

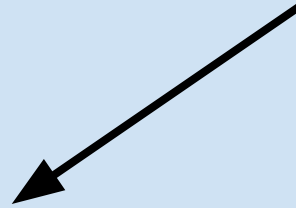
Do we just say up and down or left and right?

How would you explain the lines on a train track, road or even a picture frame?

Monday 22nd June

Lines can be **Horizontal** or **Vertical**

A horizontal line looks like this:



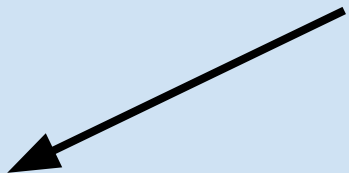
To remember which one it is, think of the word **horizon**.

The line that you see in the distance which joins the land and sky!

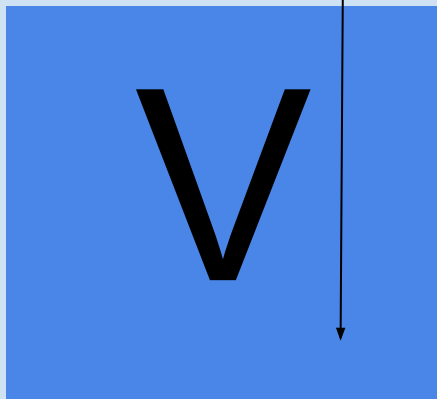
Or a capital **H** and the line across the middle

Monday 22nd June

A vertical line looks like this:



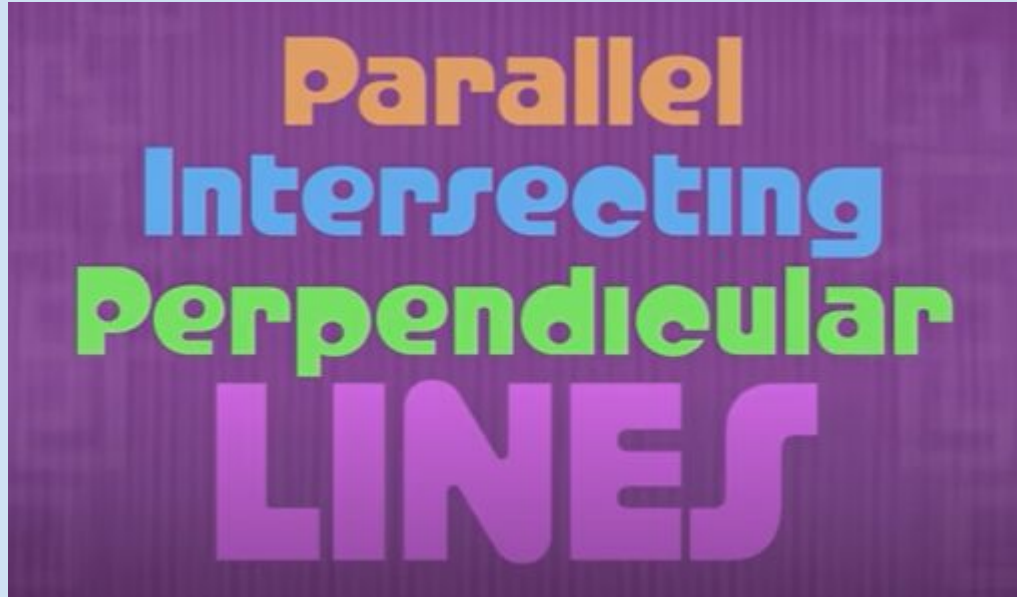
To remember which one it is, think of a **V**, it points down and a vertical line goes up and down



Pointing down!

Monday 22nd June

Lines can also be **parallel**, **intersecting** and **perpendicular**



[CLICK THE LINK](#)

And listen to the song which describes each type of line



Monday 22nd June

Complete the sentences:

Straight lines that never meet and stay the same distance apart are called

_____ lines.

Straight lines which meet at a right angle are called _____ lines.



How many parallel and perpendicular lines do these shapes have? Mark the right angles for the perpendicular lines.



Robin wants to draw parallel lines.

Which points should he join up to create a pair of parallel lines? _____



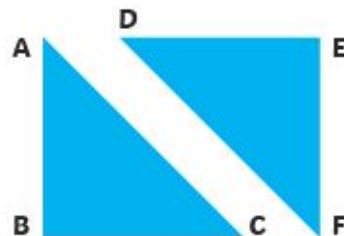
He says, "If I draw a line from A to D, and one from B to C, the lines will be perpendicular to each other."

Is he correct? _____

Prove it on the picture!

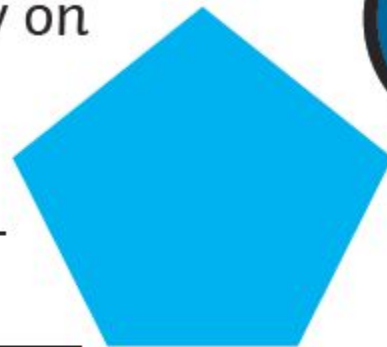
Tick the correct statements:

- ☐ Line AC is parallel to line DF.
- ☐ Line DE is perpendicular to line EF.
- ☐ Line AB is perpendicular to line AC.
- ☐ Line AB is parallel to line EF.



Monday 22nd June

This pentagon has no parallel lines. Can you explain, or show on the diagram, how you know?



Draw a picture of a house which has at least three pairs of parallel lines and three pairs of perpendicular lines.

St Catherine's Classroom Beliefs

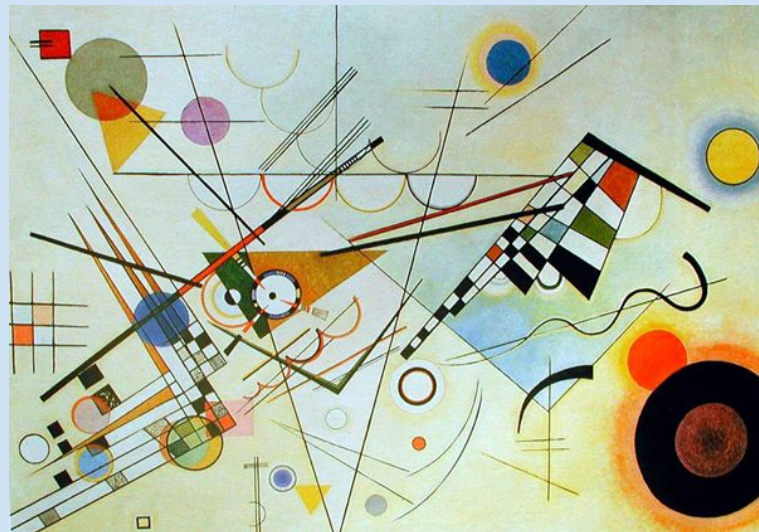
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Session 2



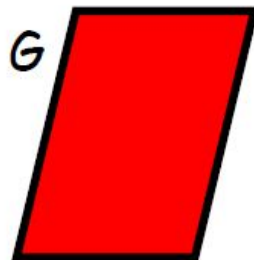
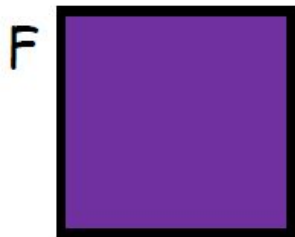
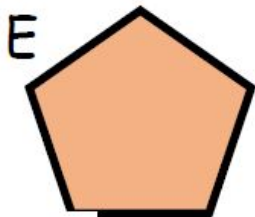
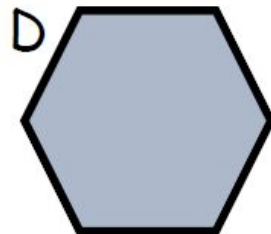
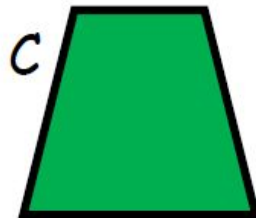
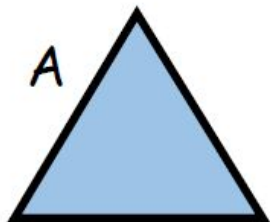
Shape: Lines

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- Identify lines in real life
- Re cap learning from year 3



Tuesday 23rd June

Today, you have 3 tasks to complete. All to do with identifying different types of lines on a polygon.
I have put the sheet on the home learning page for you too look at separately.



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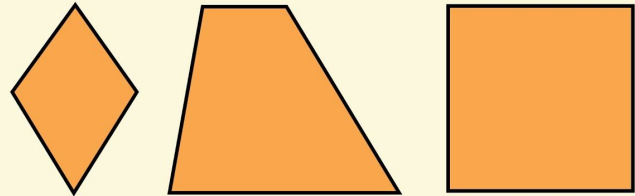
Session 3



Shape: Quadrilaterals

- Children can name quadrilaterals, including; square, rectangle, rhombus, trapezium and parallelogram.
- Describe their properties
- Identify similarities and differences
- Draw quadrilaterals accurately according to their properties

QUADRILATERALS



Wednesday 24th June

Vocabulary:

Perpendicular

a line or plane at an angle of 90° to another line or plane

Equal

the same as

Bisect

divide something into two equal parts

Adjacent

next to

Right-angle

an angle of 90°

Parallel

lines that have the same distance between them and will never meet

Interior angle

an angle inside a shape

Diagonal

a straight line joining two opposite corners of a straight-sided shape, such as a square or rectangle

Wednesday 24th June

Quadrilaterals

- 'Quadrilateral' means four sides.
- 'Quad' means four and 'lateral' means sides.
- A quadrilateral is a 2D shape that is closed with four straight sides.
- Quadrilaterals have four vertices with interior angles that add up to 360° .

The shapes below are all types of quadrilaterals.



Parallelogram



Rectangle



Rhombus



Square



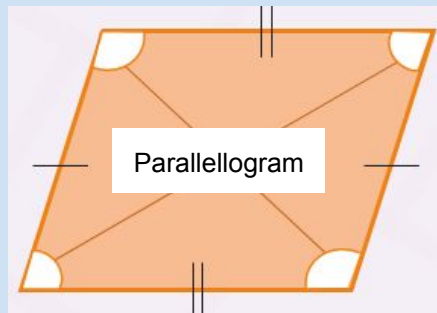
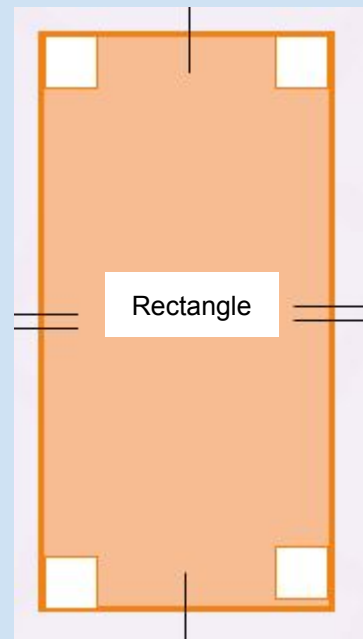
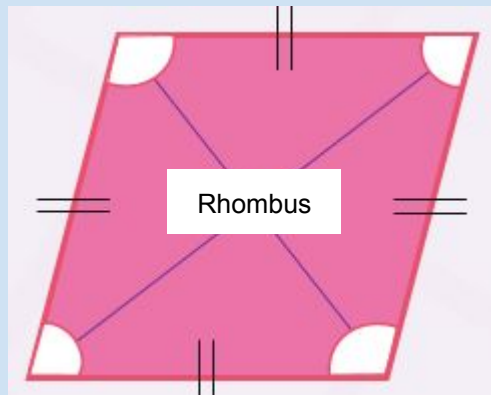
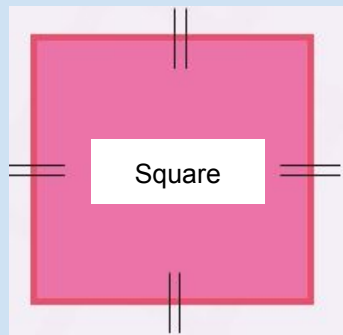
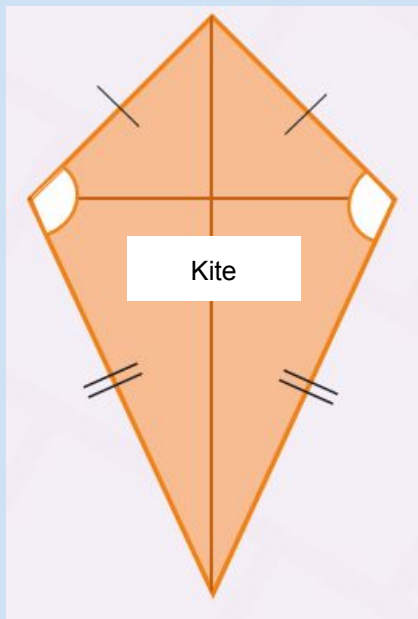
Trapezium (UK)
Trapezoid (US)



Kite

Wednesday 24th June

Thinking about the properties of **quadrilaterals**, can you identify the properties of the following shapes:



Wednesday 24th June

Think about the following properties and use the vocabulary from the start of the session to help you.

- Length of sides
- Obtuse or acute angles
- Types of lines - perpendicular or parallel

Wednesday 24th June

We will be learning using MyMaths Online.
Follow the lesson and complete the activity

 Lesson | Lines and Quadrilaterals

1

2

3

4

5

6

7

8

9

	Chapter title
1	Parallel and perpendicular lines >
2	Lines in rectangles >
3	Lines in trapeziums >
4	Guess the shape >
5	Quadrilaterals >
6	Diagonals >
7	Kite diagonals >
8	What am I? game >
9	Properties of quadrilaterals >

Objectives:

- Imagining and describing 2D shapes
- Investigating parallel and perpendicular lines
- Looking at properties of rectangles and squares
- Looking at properties of other quadrilaterals

Go through the lesson, steps 1 - 9.

This is interactive, you can click and type to check your understanding!



Wednesday 24th June

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Follow the lesson and complete the activity

 Online Homework | Lines and quadrilaterals

Menu

Q1

Q1 – Clues for the quadrilateral

0
2

Which shape is being described? Click the correct shape.

This shape has one pair of parallel sides only.


square


rectangle


rhombus


parallelogram


trapezium


kite

[2]

Mark it

No calc

Total

0
8

Now have a go at the activity!

We look forward to seeing
how you got on!

Good Luck!



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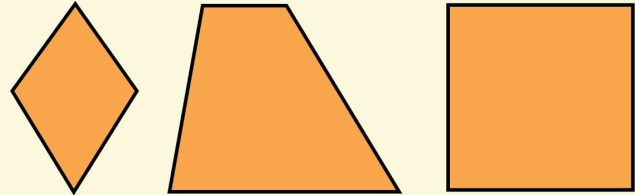
Session 4



Shape: Quadrilaterals

- Children can name quadrilaterals, including; square, rectangle, rhombus, trapezium and parallelogram.
- Describe their properties
- Identify similarities and differences
- Draw quadrilaterals accurately according to their properties

QUADRILATERALS



Thursday 25th June

Draw and label:

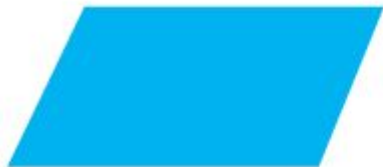
- a rhombus.
- a parallelogram.
- 3 different trapeziums

Don't forget to label their properties accurately!

Consider their angles, length of sides and parallel or perpendicular lines

Thursday 25th June

Name and identify the properties of these quadrilaterals:



Name: _____

Pairs of equal
length sides: _____

Pairs of
parallel sides: _____

Number of
right angles: _____



Name: _____

Pairs of equal
length sides: _____

Pairs of
parallel sides: _____

Number of
right angles: _____



Name: _____

Pairs of equal
length sides: _____

Pairs of
parallel sides: _____

Number of
right angles: _____

Thursday 25th June

Draw a quadrilateral with these properties:

- two pairs of equal length sides
- no right angles
- not a parallelogram

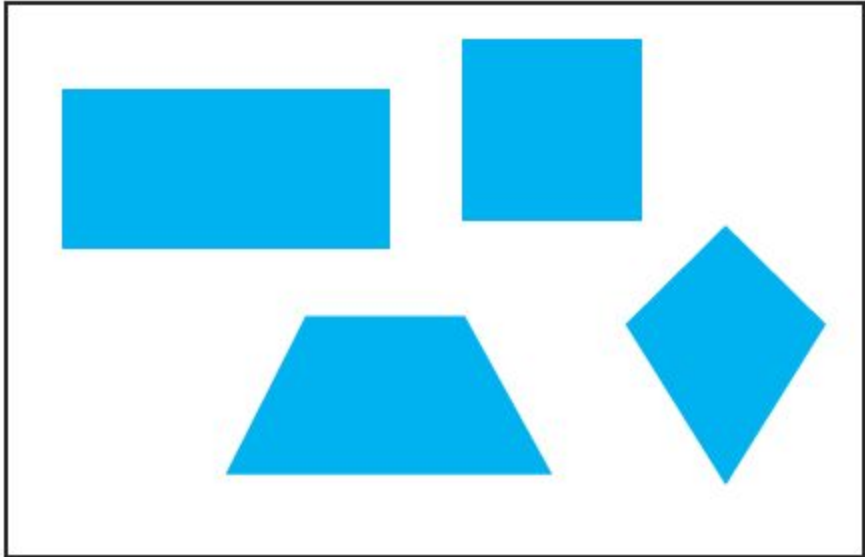
What could your quadrilateral be?

What quadrilaterals could you definitely not draw from this description?

Thursday 25th June

What do any of these shapes have in common?

What is different about them?



Thursday 25th June

Draw this table in your books or on your paper at home.

Now, thinking of the quadrilaterals we have been learning about, which ones would you put, and where on the table?

Complete each of the boxes in the table with a different quadrilateral.

	4 equal sides	2 pairs of equal sides	1 pair of parallel sides
4 right angles			
No right angles			

Which box cannot be completed?
Explain why.

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Session 5

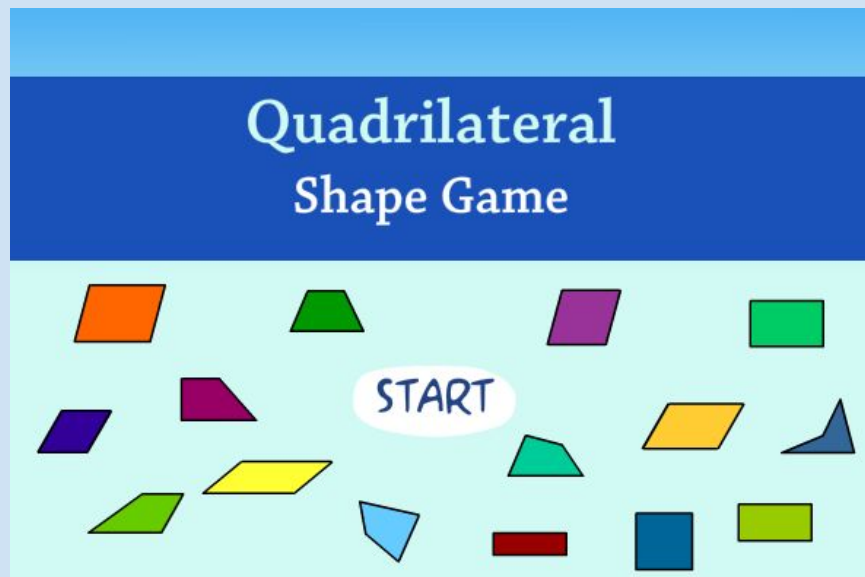


Friday 26th June

QUADRILATERAL GAME

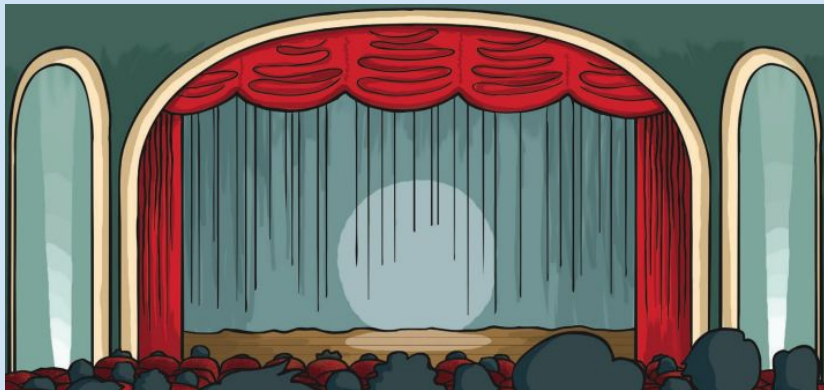


CLICK THE LINK



Friday 26th June

The Mystery of the Missing Microphones at the End of Term Play



Answers

22.06.20

Parallel
Perpendicular

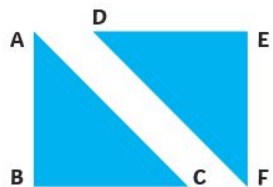
pairs of parallel lines: 0 pairs of perpendicular lines: 1 	pairs of parallel lines: 2 pairs of perpendicular lines: 4 	pairs of parallel lines: 6 pairs of perpendicular lines: 6 
--	--	--

AB and CD or AC and BD

No - Children should draw the lines on the diagram to show that they do not meet at a right angle.

Tick the correct statements:

- ☒ Line AC is parallel to line DF.
- ☒ Line DE is perpendicular to line EF.
- ☐ Line AB is perpendicular to line AC.
- ☒ Line AB is parallel to line EF.



If the lines were continued, they would all eventually meet each other. Children may choose to show this on the picture.

Answers

23.06.20

Task A

1. All
2. B F H
3. 1
4. 2
5. B F H
6. B C D F G
7. B C D F G

Task B

1. B C D F G
2. 4
3. 1
4. A E
5. B D F G
6. 2
7. A E

23.06.20

Task C

1. B F
2. A C D E G
3. B F
4. No, refer to shape C as an example
5. D
6. Square or Rectangle

24.06.20



Name: *parallelogram*

Pairs of equal length sides: **2**

Pairs of parallel sides: **2**

Number of right angles: **0**



Name: *rectangle*

Pairs of equal length sides: **2**

Pairs of parallel sides: **2**

Number of right angles: **4**



Name: *trapezium*

Pairs of equal length sides: **1**

Pairs of parallel sides: **1**

Number of right angles: **0**

	4 equal sides	2 pairs of equal sides	1 pair of parallel sides
4 right angles			
No right angles			

What could your quadrilateral be?
kite

What quadrilaterals could you definitely not draw from this description?
square, rectangle, trapezium, parallelogram

What do any of these shapes have in common?

Answers may include:

All have four sides and four vertices; the square and rectangle have two pairs of parallel sides and four right angles; the rectangle and kite have two pairs of equal length sides.

What is different about them?

Answers may include:

The kite only has one pair of equal angles; the trapezium has two pairs of equal angles; only two of the shapes have right angles.