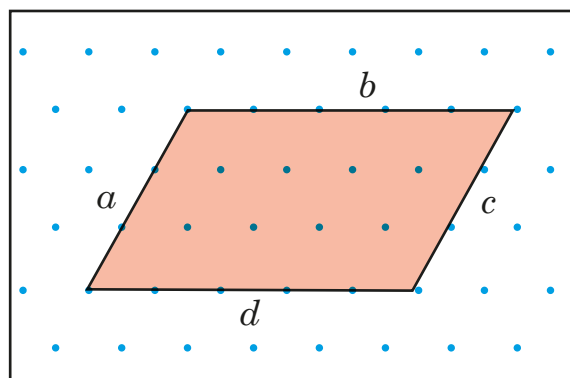


# Investigate the properties of special quadrilaterals

- 1 The diagram shows a parallelogram.



- a) What two things do you notice about sides  $a$  and  $c$ ?

They are parallel.

They are the same length.

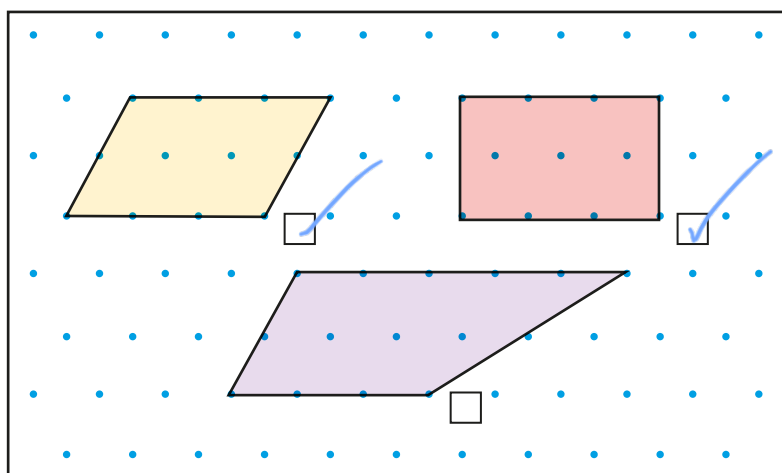
- b) What two things do you notice about sides  $b$  and  $d$ ?

They are parallel.

They are the same length.

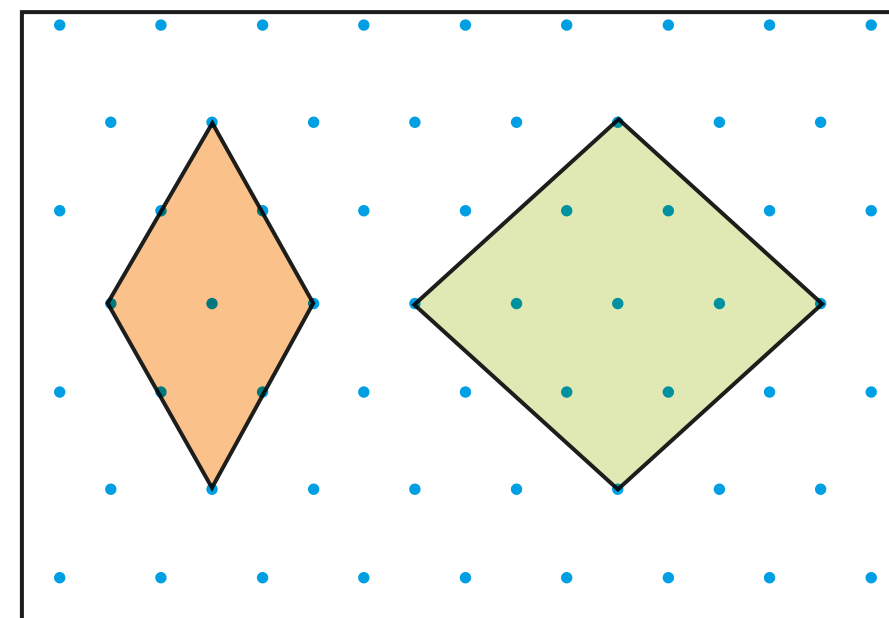
- c) Which of these shapes are parallelograms?

Tick your answers.



2

Here are two rhombuses.



- a) What do you notice about the lengths of the sides in a rhombus?

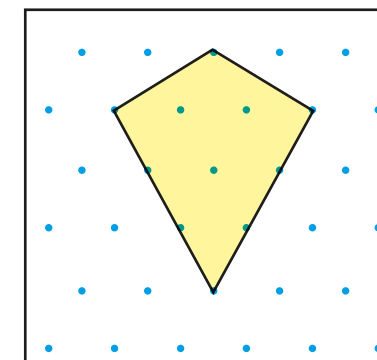
They are equal.

- b) Measure the angles in each rhombus and label the diagram.

- c) What do you notice about the sizes of the angles in a rhombus?

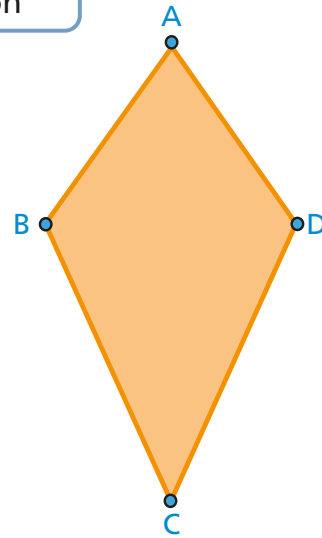
Opposite angles are equal.

- d) Explain why this shape is not a rhombus.

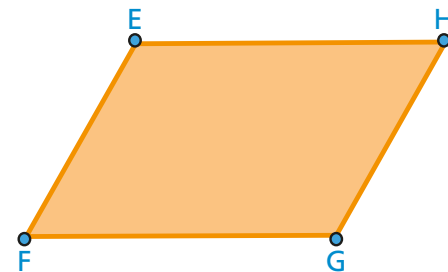


- 3 Ron and Rosie are using some geometric software to make kites. They make these shapes.

Ron



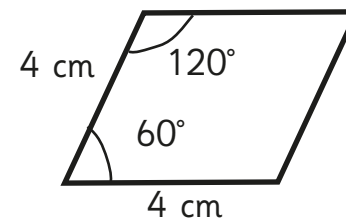
Rosie



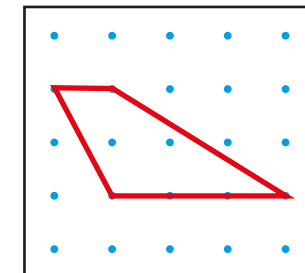
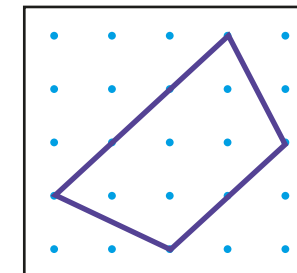
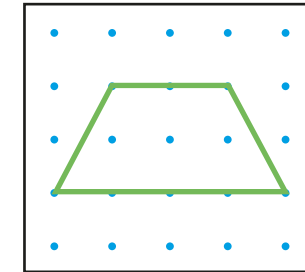
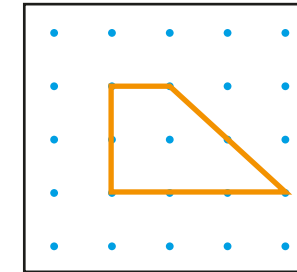
- a) Who has made a kite? Ron  
 b) Explain why one shape is a kite and the other is not.

ABCD has two pairs of equal adjacent sides and one pair of equal opposite angles therefore it is a kite. EFGH does not have two pairs of equal adjacent sides.

- 4 Here is a sketch of rhombus. Construct the rhombus using a ruler and protractor.



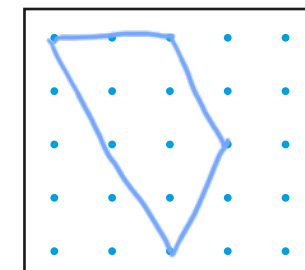
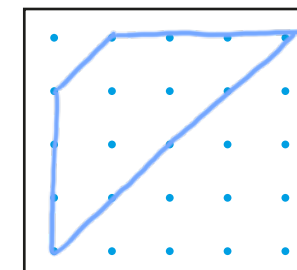
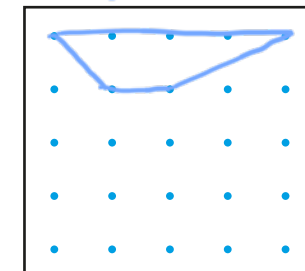
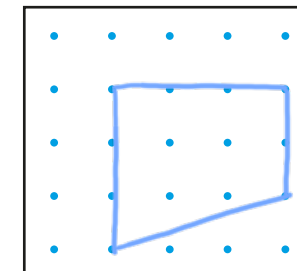
- 5 Mr Simpson's Maths class are making trapeziums on geoboards. Here are four that they have made.



- a) What is a trapezium? Write a definition.

A trapezium is a quadrilateral with one pair of parallel sides.

- b) Make or draw four more trapeziums. e.g.



- c) Here are two types of trapeziums.

right trapezium

isosceles trapezium

Define the properties of each of these trapeziums.

