11.06.20

WALT calculate the interior angles of quadrilaterals

Notes and Guidance

Children use their knowledge of properties of shape to explore interior angles in a parallelogram, rhombus, trapezium etc. They need to learn that angles in any quadrilateral add up to 360°. If they are investigating by measuring, there may be accuracy errors which will be a good discussion point. Children need to have a secure understanding of the relationship between a rectangle, a parallelogram, a square and a rhombus.

Watch - https://www.youtube.com/watch?v=6ApegKO75d0

Mathematical Talk

Is a rectangle a parallelogram? Is a parallelogram a rectangle?
What do you notice about the opposite angles in a parallelogram?
Is a square a rhombus? Is a rhombus a square?
What do you notice about the opposite angles in a rhombus?
What is the difference between a trapezium and an isosceles trapezium?
If you know 3 of the interior angles, how could you work out the fourth angle?

Varied Fluency

- Take two quadrilaterals.

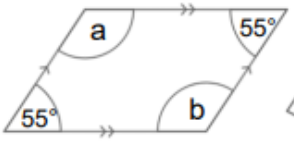
For the first quadrilateral, measure the interior angles using a protractor.
For the second, tear the corners off and place the interior angles at a point as shown.

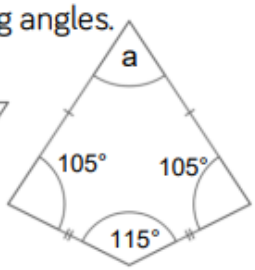
What's the same? What's different? Is this the case for other quadrilaterals?

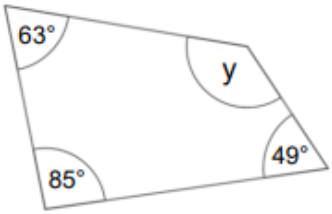
- Here are two trapeziums. What's the same? What's different?

Can you draw a different trapezium?
Measure the interior angles of each one and find the total.

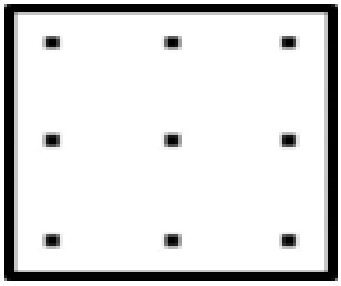
- Calculate the missing angles.







How many quadrilaterals can you make on the geoboard?



Identify the names of the different quadrilaterals.

What do you notice about the angles in certain quadrilaterals?

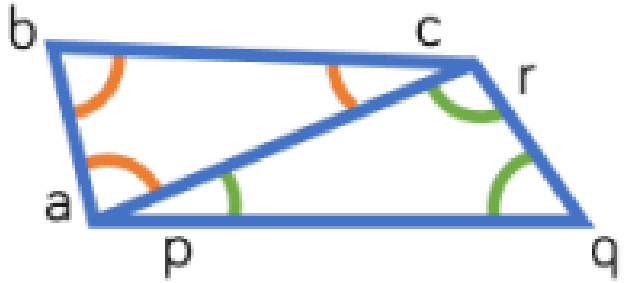
If your geoboard was 4 × 4, would you be able to make any different quadrilaterals?

Jack says,

All quadrilaterals have at least one right angle.

Draw two different shapes to prove Jack wrong. Measure and mark on the angles.

This quadrilateral is split into two triangles.



Use your knowledge of angles in a triangle to find the sum of angles in a quadrilateral.

Split other quadrilaterals into triangles too. What do you notice?