

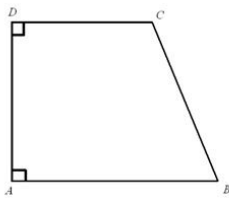
SHQ: How do I calculate angles in a parallelogram and a trapezium

To help answer the Power Maths problems in this lesson, you will need to know a few facts about trapeziums and parallelograms – both are quadrilaterals as they both have four sides. There are different types of trapeziums as shown below, but all parallelograms have the same features.

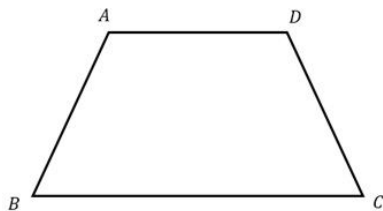
It is important to understand the difference between a trapezium and a parallelogram:

Right -angled trapezium

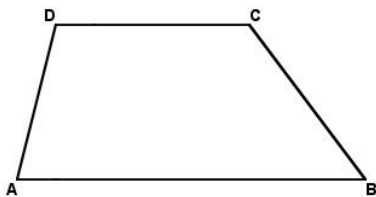
- A right-angled trapezium has a pair of right angles.

**Isosceles trapezium**

- If the non-parallel sides or the legs of a trapezium are equal in length, it is known as an isosceles trapezoid.

**Scalene trapezium**

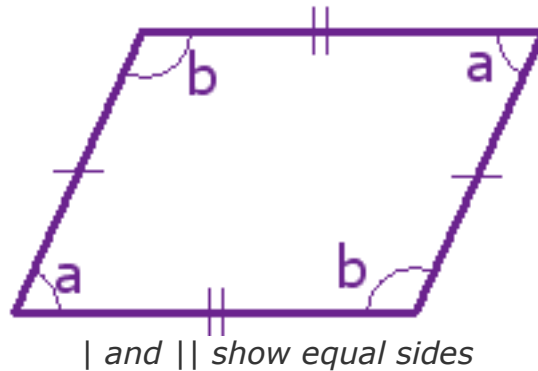
- When neither the sides nor the angles of a trapezium are equal, we call it a scalene trapezium.

**Shape of trapezium**

A trapezoid is a four-sided shape which has **one pair of parallel sides**. It is basically a two-dimensional shape or figure similar to a square, rectangle, parallelogram.

Parallelogram

A Parallelogram is a 2D shape with opposite sides parallel and equal in length, so it has **two pairs of parallel sides**.

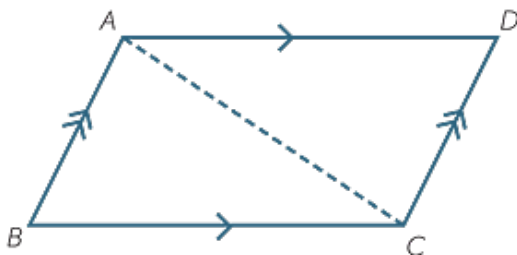


- Opposite sides are parallel (click on the link to revise parallel and perpendicular: <https://www.mathsisfun.com/perpendicular-parallel.html>)
- Opposite sides are equal in length.
- Opposite angles are equal (angles "a" are the same, and angles "b" are the same).
- Angles "a" and "b" add up to 180° , so they are supplementary angles. Use the link here to revise supplementary and complementary angles: <https://www.mathsisfun.com/geometry/supplementary-angles.html>

You will also need to remember two additional facts that we have revised this week : the angle on a straight line is 180° and a right angle measures 90° .

And finally, you will remember that the sum of the angles in a triangle is 180° .

In a quadrilateral, the sum of the internal angles is 360° . This is because any quadrilateral can be divided into two triangles as shown here:



Now it's your turn:

You need to refer to the Power Maths questions (see worksheet 8 resource). To answer the questions, you will be using calculations like the ones shown in the examples above.