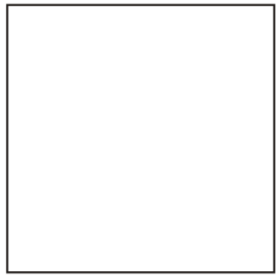
CONSTRUCTING QUADRILATERALS

A quadrilateral is a four sided plane figure. They include square, rectangle, rhombus, parallelogram, trapezium, deltoid, and trapezoid.

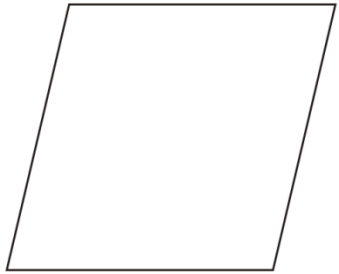
- A square has 4 equal sides. All its angles are right angles.
- A rectangle has its opposite sides equal and all its angles are right angles.
- A rhombus has all its sides equal. Its angles are not right angles.
- A parallelogram has its opposite sides equal. Its angles are not right angles.
- A trapezium has 2 opposite side parallel.
- A deltoid or kite has its adjacent pairs of sides of equal length.
- A trapezoid has 4 unequal sides and angles.



Square



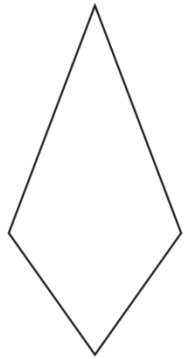
Rectangle



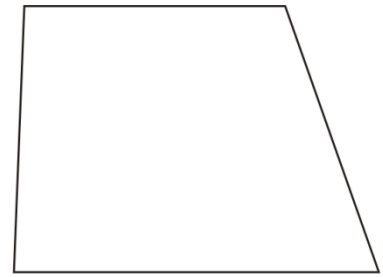
Rhombus



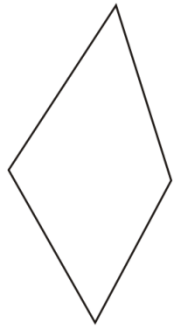
Parallelogram



Kite (deltoid)



Trapezium (U.K.);
Trapezoid (US)

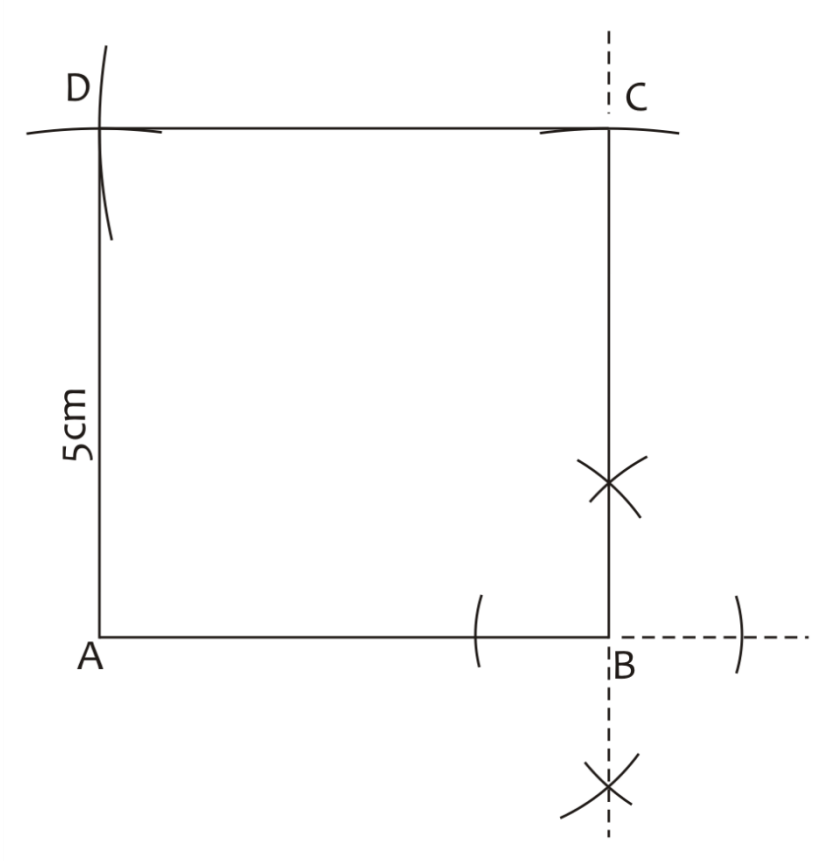


Trapezoid (UK);
Trapezium (US)

To construct a square given the length of side

1. Draw one side AB.
2. Construct a right angle at B.
3. With centre B and a radius of the side draw an arc to cut the perpendicular at C.
4. With centres A and C in turn and a radius of the side draw arcs to intersect at D.
5. Join CD and DA to complete the square.

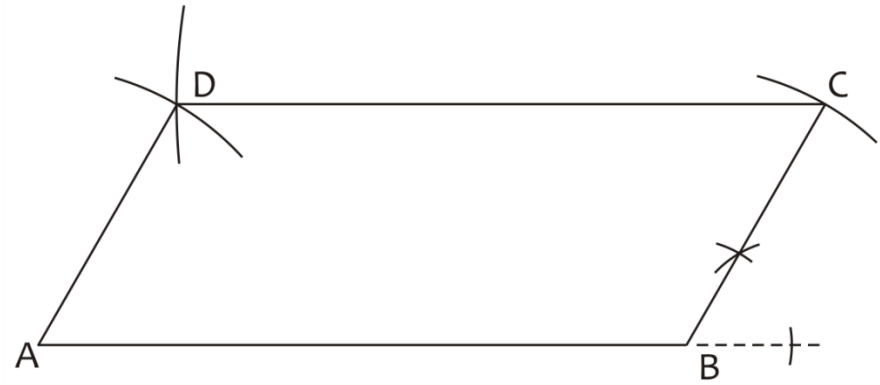
For instance: draw a square of side 5cm.



To construct a parallelogram the length of the two sides and one angle

1. Draw one side AB.
2. Construct the given angle at B.
3. With the centre B and a radius of the other side draw an arc to cut Bl at C.
4. With centre A and radius BC draw an arc.
5. With centre C and radius AB draw an arc to cut the previous one at D.
6. Join AD and DC.

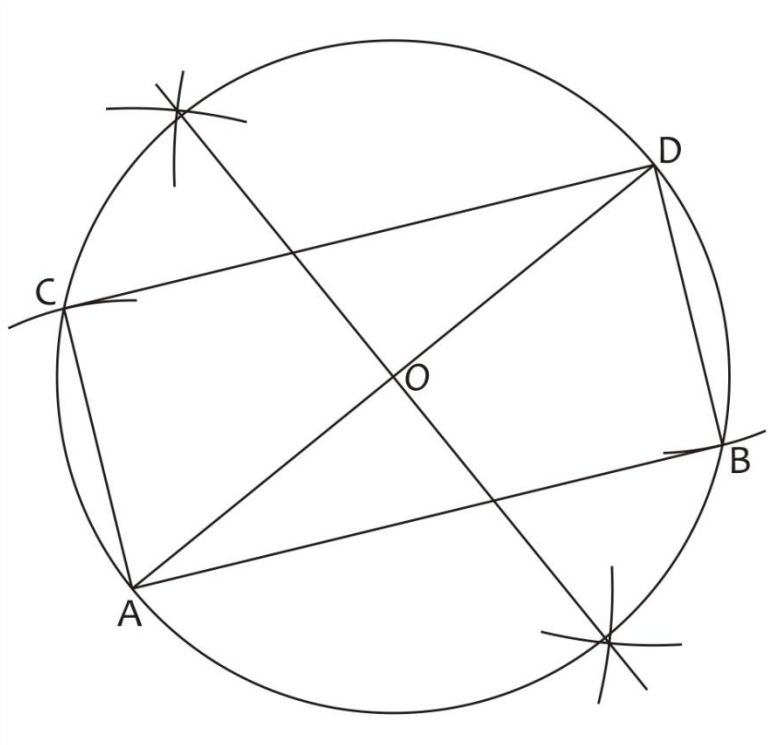
For example: draw a parallelogram of sides 7cm and 3cm and angle 60^{o}.



To construct a rectangle given the length of the diagonal and one side

1. Draw the diagonal AB
2. Bisect to find its centre *O*
3. Construct a circle on with *O* as centre
4. With centre A and a radius of the given side draw an arc to cut the circumference at C.
5. With centre B and a radius of the given side draw an arc to cut the circumference at D.
6. Join AC, CB, BD and DA to complete the rectangle.

For example: Construct a rectangle with diagonal 7cm and side 3cm.

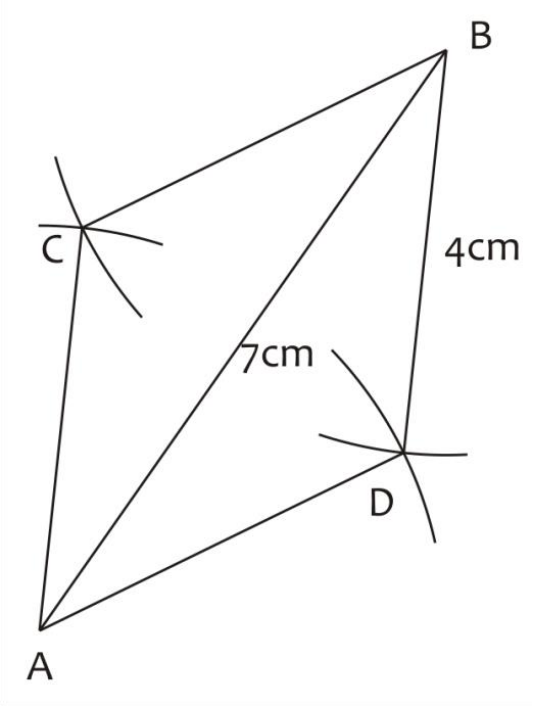


To construct a rhombus (or square) given the length of the diagonal and side

1. Draw the diagonal AB.
2. With centres A and B in turn and radius of side draw arcs above the line to intersect at C.

3. With centres A and B in turn and radius of side draw arcs below the line to intersect at D.
4. Join AC, CB, BD and DA to complete the rhombus.

For instance: Draw a rhombus with diagonal 7cm and side of 4cm.



To construct a trapezium given the parallels and the perpendicular distance between them and one angle

1. Draw one of the parallels AB.
2. Construct the given angle at A.
3. Draw the parallel CD.
4. Join D to B to complete the trapezium.

For example: Construct a trapezium with parallels 7cm and 5cm, 60^{o} and 3cm distance between the parallels.

