

# Logical geometry

**This task is about geometric properties of quadrilaterals.**

A quadrilateral is a two-dimensional shape with four straight sides.

Five quadrilaterals are shown below.



**Trapezium**

(At least 1 pair of parallel sides)



**Rhombus**

(2 pairs of parallel sides)



**Parallelogram**

(2 pairs of parallel sides,  
all sides equal length)



**Square**

(2 pairs of parallel sides,  
all sides equal length, all angles  $90^\circ$ )



**Rectangle**

(2 pairs of parallel sides,  
opposite sides equal length, all angles  $90^\circ$ )

Following are statements about quadrilaterals. One statement in each pair is *true* and the other is *false*.

a) Select the **true** statement below.

All rectangles are trapeziums.

All trapeziums are rectangles.

b) Select the **true** statement below.

All rhombuses are squares.

All squares are rhombuses.

c) Select the **true** statement below.

All squares are parallelograms.

All parallelograms are squares.

d) Select the **true** statement below.

All trapeziums are rhombuses.

All rhombuses are trapeziums.

e) Select the **true** statement below.

All parallelograms are rectangles.

All rectangles are parallelograms.