

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°)



Rectangle

(2 pairs of parallel sides,
opposite sides equal length, all angles 90°)

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.