

Quadrilateral quest

Classify quadrilaterals by their geometric properties

C

1. (a) Name each quadrilateral. Draw in the two diagonals.

A



isosceles trapezium

B



C



D



E



F

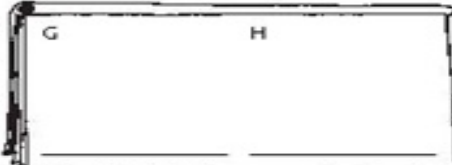


- (b) Answer these questions about the pair of diagonals for each shape.

	A	B	C	D	E	F
Are they the same length?	Yes					
Do they bisect each other (cross each other halfway)?						
Are they perpendicular (at 90°) to each other?						
Do they cross inside the shape?						

2. (a) Read about the diagonals of two more shapes. Draw and name the shapes.

	G	H
Are they the same length?	Yes	No
Do they bisect each other?	Yes	Yes
Are they perpendicular to each other?	Yes	Yes
Do they cross inside the shape?	Yes	Yes



- (b) For each shape above, say whether both diagonals are lines of reflection symmetry.

A B C D E F G H

No

NOW TRY THIS!

- With a partner, decide whether each statement is true or false.

(a) All parallelograms have diagonals that cross inside the shape.

(c) All trapeziums have diagonals of equal length.

(b) No parallelograms have perpendicular diagonals.

(d) All rectangles have diagonals that bisect each other.

- Justify each of your answers by drawing examples.



A diagonal is a straight line joining two non-adjacent vertices. Bisecting means cutting equally in half; if two diagonals bisect each other, it means they cross each other halfway along both lengths. When you name shapes, be as specific as you can (for example, call a square a square, rather than a rectangle, parallelogram or quadrilateral).

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