GCSE HIGHER · REVISION MAT 4

Properties of quadrilaterals

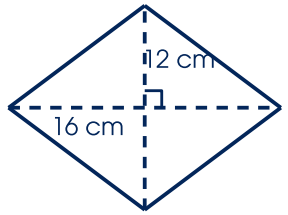
1 Name the quadrilateral with exactly one line of symmetry and perpendicular diagonals.

2 What do the angles in a quadrilateral add up to?

3 Explain why a rectangle has two lines of symmetry, not four.

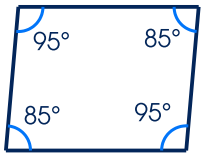
4 A rhombus has diagonals of 12 cm and 16 cm.

Find its side length and perimeter.



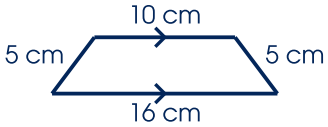
5 A quadrilateral has angles 85°, 95°, 85°, 95° in order.

Explain why it could be a parallelogram.



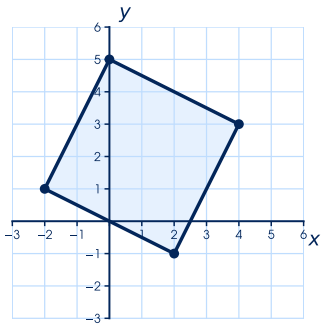
6 An isosceles trapezium has parallel sides of 10 cm and 16 cm and slanted sides of 5 cm.

Find its area.



7 Explain why a kite cannot have four equal angles unless it is a square.

8 A(−2, 1), B(2, −1), C(4, 3), D(0, 5).



Show that ABCD is a square.

Mr&Mrs MATHS

ANSWERS · REVISION MAT 4

Properties of quadrilaterals

1 **Kite**

2 **360°**

3 **The diagonals are not lines of symmetry, because the sides are not all equal.**

4 Half-diagonals 6 and 8

$\sqrt{36 + 64} = 10$

Side 10 cm, perimeter 40 cm

5 **Opposite angles are equal and adjacent angles add to 180°.**

6 Each end overhangs 3 cm

Height $\sqrt{25 - 9} = 4$

$\frac{1}{2}(10 + 16) \times 4 = 52$ cm²

7 **Four equal angles are each 90°, and a kite with right angles has all sides equal.**

8 All sides $\sqrt{20}$

Gradients −0.5 and 2 multiply to −1

Equal sides and right angles: a square

Mr&Mrs MATHS