Quadrilaterals

Starter

1. **(Review of last lesson)** Answer these questions on reflective and rotational symmetry.
   (a) Give the name of a shape that has 3 lines of symmetry and order of rotational symmetry 3.
   (b) State the order of rotational symmetry of an $n-$sided regular polygon.
   (c) State the number lines of symmetry and the order of rotational for these shapes:
   (i) (ii) (iii)

Working: (a) Equilateral triangle

(b) The order of rotational symmetry is n

(c) (i) Lines of symmetry $= 5$; Order of rotational symmetry $= 5$
(ii) Lines of symmetry $= 1$; No rotational symmetry
(iii) Lines of symmetry $= 2$; Order of rotational symmetry $= 2$

2. Complete **CIMT Activity 15.4 Special Quadrilaterals** (you will need to scroll down to find the activity) by putting a tick or a cross in the table.

Working: Answers can be found at the end of the document you opened via the link above.

E.g. 1 What is the difference between a kite and an arrowhead?

Working: The difference between a kite and an arrowhead is that an arrowhead has one interior angle that is a reflex angle, while a kite has only acute and obtuse angles.

Remember: acute angles are between 0^o and 90^o
obtuse angles are between 90^o and 180^o
reflex angles are between 180^o and 360^o

E.g. 2 Decide whether these statements are true or false:
(a) An arrowhead and isosceles triangle both have one line of symmetry and two equal angles.

(b) A parallelogram has diagonals that bisect the angles and has two lines of symmetry.

(c) A rhombus has two lines of symmetry and its diagonals bisect each other.

(d) A right-angled triangle never has a line of symmetry.

Working: (a) True

(b) False — a parallelogram does not any lines of symmetry

(c) True

(d) False — a right-angled triangle has 1 line of symmetry when it is an isosceles triangle)

Video: Quadrilaterals

Solutions to Starter and E.g.s

Exercise
p66 Ex 15.4 Qu 1-10

Textbook answers (only available during a lockdown)