

# UNIT 15 *Polygons*

## Teaching Notes

### *Historical Background and Introduction*

The unit brings together the earlier work on angles (Y7A, Unit 5 and Y8A, Unit 11) and quadrilaterals (Y8A, Unit 6), which form a good introduction to the topics considered here. The work on symmetry will need careful handling, ensuring that pupils understand the differences between lines of symmetry and rotational symmetry. There is also scope for creative activities suitable for coursework when designing shapes with specific symmetry properties.

### *Routes*

	Standard	Academic	Express
15.1 Angle Facts	✓	✓	(✓)
15.2 Angle Properties of Polygons	(✓)	✓	✓
15.3 Symmetry	✓	✓	✓
15.4 Quadrilaterals	✓	✓	✓

### *Language*

	Standard	Academic	Express
Interior and exterior angles	(✓)	✓	✓
Polygons	(✓)	✓	✓
Pentagons, octagons, hexagons, heptagons, decagons	(✓)	✓	✓
Lines of symmetry	✓	✓	✓
Rotational symmetry	✓	✓	✓
Order of rotational symmetry	✓	✓	✓
Centre of rotation	✓	✓	✓
Flow chart	✓	✓	✓

### *Misconceptions*

- it is easy to confuse *line of symmetry* and *rotational symmetry*.
- every shape does have order of rotational symmetry of at least *one*.
- it should be noted that squares are special cases of rectangles; rectangles are special parallelograms, etc.

### *Challenging Questions*

The following questions are more challenging than others in the same section:

	Section	Question No.	Page
<i>Practice Book Y8B</i>	15.2	10	59
" "	15.3	7, 8, 9, 10	64