



# Shape



## Lesson sequence

- Understand and use degrees
- Classify angles
- Estimate angles
- Measure angles up to  $180^\circ$
- Draw lines and angles accurately
- Calculate angles around a point
- Calculate angles on a straight line
- Lengths and angles in shapes
- Regular and irregular polygons
- 3-D shapes

## Vocabulary

- Regular polygons
- Irregular polygons
- Angles
- Obtuse
- Acute
- Reflex
- Degrees
- Classify
- Protractor
- Right angle
- Estimate

## Sticky learning

### • New Knowledge

- *To know angles are measured in degrees ( $^\circ$ )*
- *To know that angles at a point and one whole turn total  $360^\circ$*
- *To know that angles at a point on a straight line and  $\frac{1}{2}$  a turn total  $180^\circ$*
- *To know that a right angle is  $90^\circ$*
- *To know the rules of measuring angles*

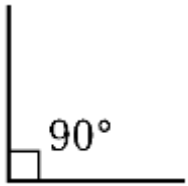
### • New Skills

- *Draw given angles, and measure them in degrees ( $^\circ$ )*
- *To use the properties of rectangles to deduce related facts and find missing lengths and angles*
- *To distinguish between regular and irregular polygons based on reasoning about equal sides and angles*
- *To estimate and compare acute, obtuse and reflex angles*
- *To identify:*
  - *angles at a point and one whole turn (total  $360^\circ$ )*
  - *angles at a point on a straight line and  $\frac{1}{2}$  a turn (total  $180^\circ$ )*
  - *other multiples of  $90^\circ$*
- *To draw lines accurately with a ruler to the nearest millimeter*
- *To measure angles with a protractor*
- *To use angle sum facts and other properties to make deductions about missing angles and relate these to missing number problems*

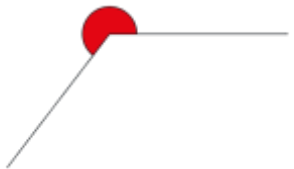
## Concept Links/Prior Knowledge

- *To identify acute and obtuse angles*
- *Identify angles in a shape*
- *Know what a polygon is*
- *Know how many degrees in a right angle*

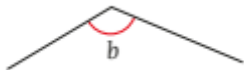
## Pictorial representations



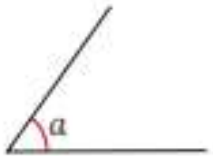
**Right angles -  $90^\circ$**



**Reflex angle - greater than  $180^\circ$ ; less than  $360^\circ$**

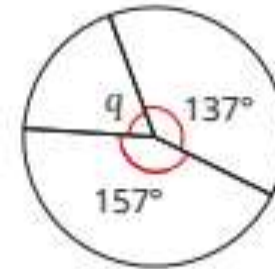


**Obtuse angle - greater than a right angle, smaller than  $180^\circ$**



**Acute angle - smaller than a right angle**

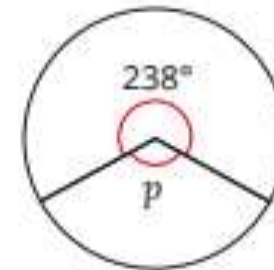
## Missing angles



$$137 + 157 = 294$$

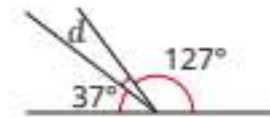
$$360 - 294 = 66$$

$$q = 66$$



$$360 - 238 = 122$$

$$p = 122$$



$$127 + 37 = 164$$

$$180 - 164 = 16$$