

Essential knowledge

Draw and measure angles

Know the meaning of congruence

Know the meaning of perpendicular

Key Vocabulary

Acute- An angle which is measuring less than 90°

Obtuse- an angle which is greater than 90° and less than 180°

Reflex- an angle that measures more than 180° but less than 360°

Right angle- an angle that measures exactly 90°

Line segment- a line bounded by two distinct points

Corresponding- a pair of matching sides that are in the same spot in two different shapes

Congruent- identical in form

Perpendicular- at an angle of 90° to a given line, plane, or surface

Prior learning links

Year 7- Lines and angles

Year 8- Angles in parallel lines and polygons

Measuring angles

You can measure an angle using a protractor.

Step 1: Line up the vertex (corner) of the angle with the cross section of the protractor.



Step 2: Make sure that one of the angle lines goes right through the zero.

Step 3: See which number the other line of the angle reaches on the protractor. Always read from the zero



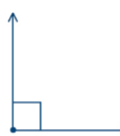
Congruency

Two shapes are described as congruent if they are identical.

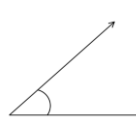
The lengths of sides (edges) and sizes of angles must be equal between the two shapes for them to be congruent.

Reflections or rotations change the orientation of a shape but they are still congruent to the original shape.

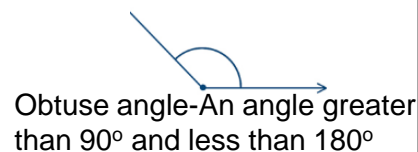
Types of angles



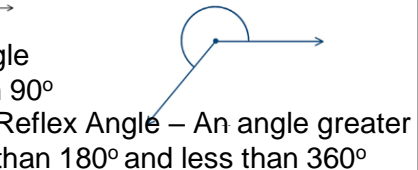
Right angle is 90° . Usually marked as a square



Acute angle
Less than 90°



Obtuse angle-An angle greater than 90° and less than 180°



Reflex Angle – An angle greater than 180° and less than 360°

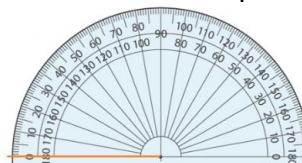
Drawing angles

Draw an angle of 50° .

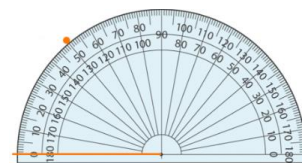
Step 1: Draw a straight line using a ruler.



Step 2: Place the centre (cross section) of the protractor at one end of the line. This will become the vertex (corner) of the angle. Make sure the line lines up with the base line of the protractor.



Step 3: Look for 50° on the protractor.



Step 4: Remove the protractor. Using a ruler, join the mark you made to the end of the line that was in the centre of the protractor.



Prior learning links

What is an acute angle?

What is an obtuse angle?

What is a reflex angle?

Key Vocabulary

Define the word perpendicular and draw two perpendicular lines

Measuring angles

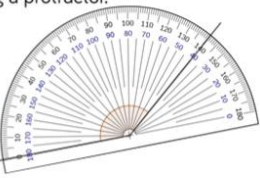
Alex and Dora measure the angle using a protractor.



The angle is 40°

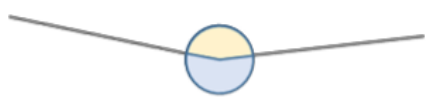
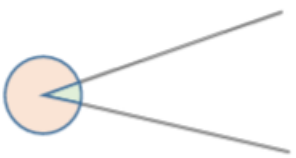


The angle is 140°



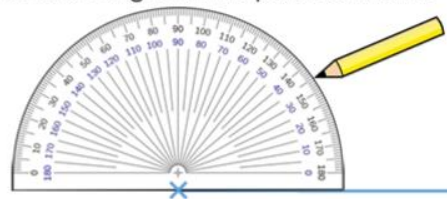
Who do you agree with? Why?

Measure all four angles shown.



Drawing angles

Teddy is drawing an angle of 35°
He marks the angle with his pencil as shown.



Will Teddy's diagram show the correct angle? How do you know?

Draw angles of size...

- 50°
- 10°
- 15°
- 85°
- 27°
- 160°
- 107°

Congruent shapes

Which shapes are congruent to shape A?

How do you know?

