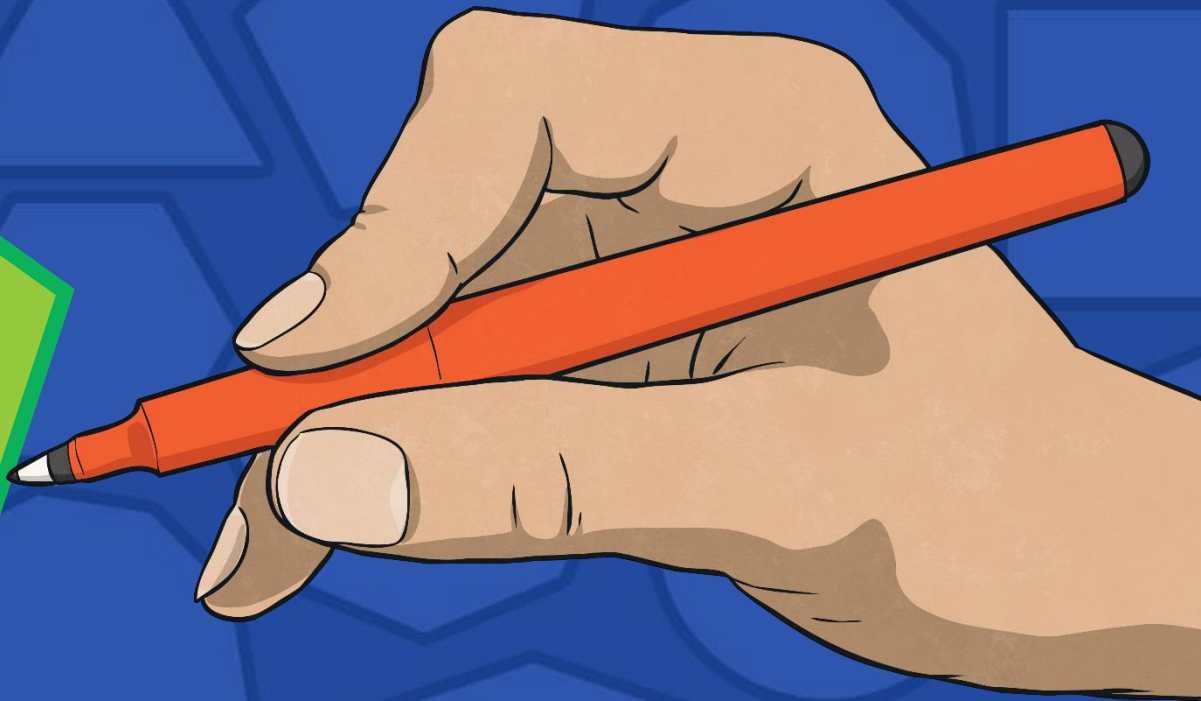


Expert 2D Shape Drawing



Aim

- I can accurately draw a range of 2D shapes using the measurements given.

Success Criteria

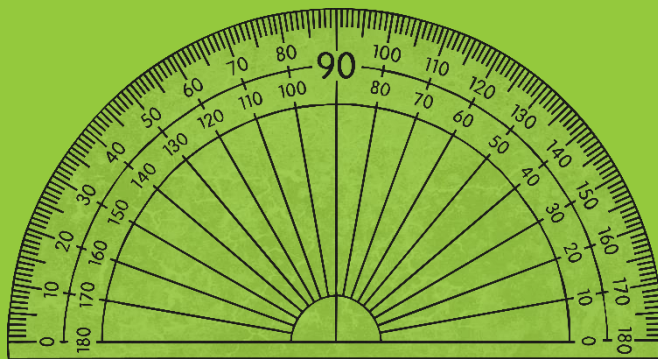
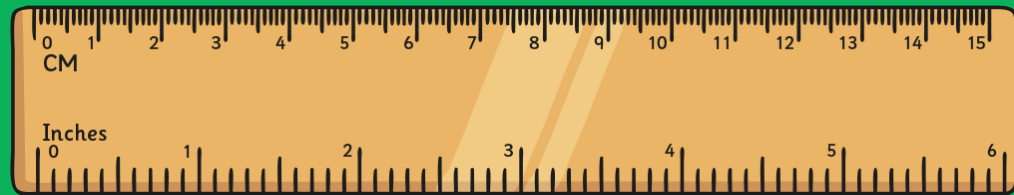
- I can follow instructions to accurately draw shapes.
- I can draw lines accurately using a ruler.
- I can draw angles accurately using a protractor.
- I can reason about shapes.

Measuring and Drawing Tools



When we measure and draw 2D shapes, we need to use a ruler and a protractor.

We use a ruler to measure and draw straight lines using cm and mm.

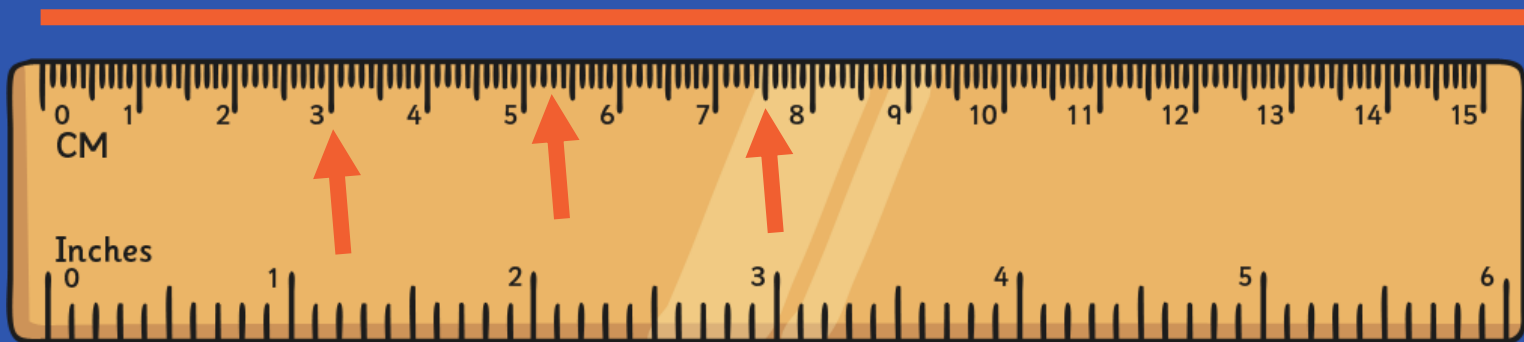


We use a protractor to measure and draw angles using degrees.

Measuring and Drawing Tools



When we measure and draw with a ruler, the start of the straight line must line up with the 0 mark.



Remember: the cm are shown on the scale using the longest lines.

There are 10mm in each cm and these are shown by the shorter lines.

5mm or $\frac{1}{2}$ cm is shown by a medium line.

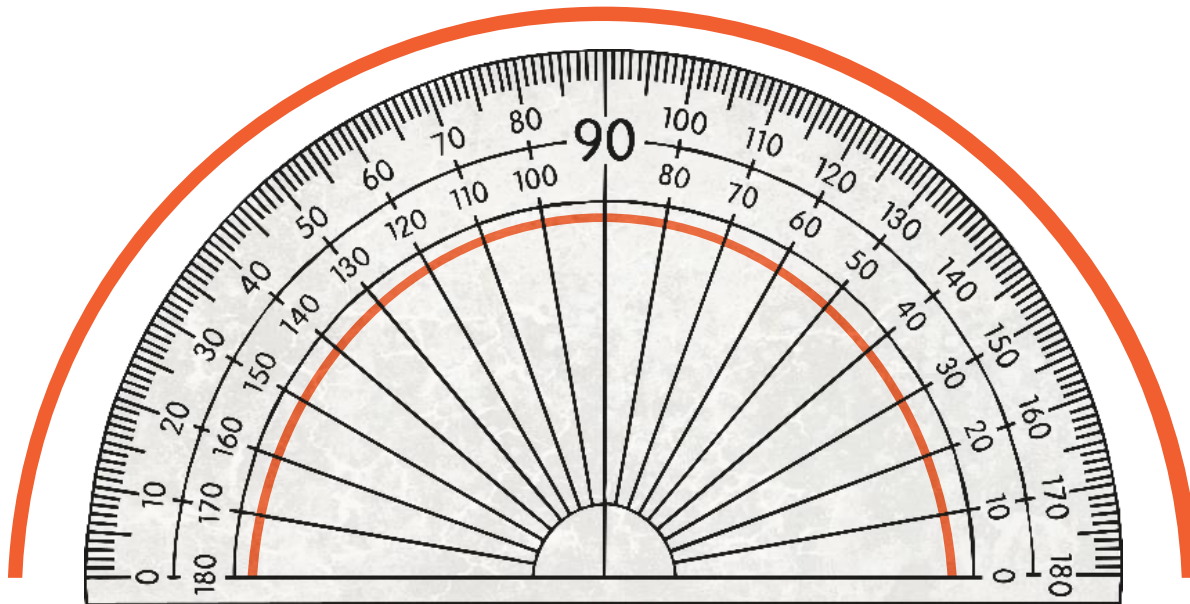
Remember these top tips to help you measure and draw straight lines accurately.

Measuring and Drawing Tools



To measure angles, we use a protractor (angle measurer).

Here is a semi-circular protractor. Look carefully at how the numbers on the scale count from 0° to 180° in both directions.



Measuring and Drawing Tools

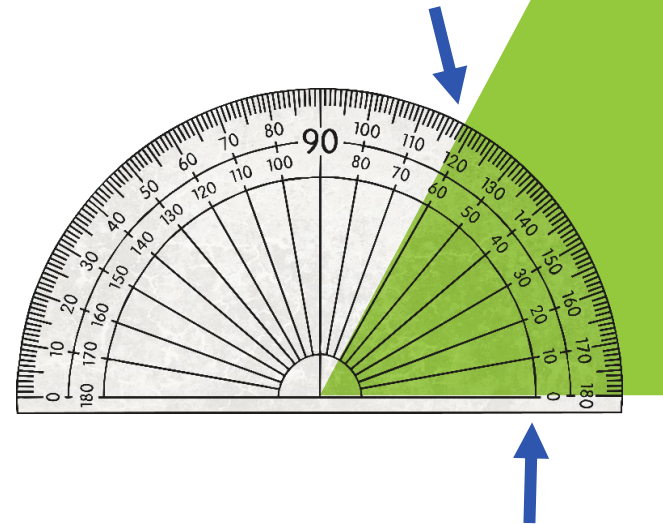


First, place the centre of the protractor carefully on the point (vertex) of the angle. Make sure you also line the horizontal arm of the angle up with the 0° marker.

Then, read the scale from the correct side, dependent on how the arm of the angle is opening.

Each degree is marked. Multiples of 5° are marked by a medium line and multiples of 10° are marked by a longer line. Be careful to keep the horizontal line of the angle lined up with the protractor.

62°



Measuring and Drawing Practice



Measurement and Drawing Practice

Use your ruler to measure these lines:

 Length = cm	 Length = cm	 Length = cm
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Use your protractor to measure these angles:

 Angle = °	 Angle = °	 Angle = °
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<p>Draw a line measuring 10.7cm:</p> 	<p>Draw an angle measuring 62°:</p>
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Maths | Year 6 | Properties of Shapes | Expert 2D Shape Drawing | Lesson 1 of 3 | Expert 2D Shape Drawing

Practise using your rulers and protractors to measure and draw accurate lines and angles.

What do you find easy or difficult about using rulers and protractors?

Drawing Regular 2D Shapes



Remember your top tips for drawing and measuring lines and angles to complete these activities.

Expert 2D Shape Drawing

I can draw 2D shapes using given dimensions and angles.

Use the given lengths and angles to draw these 2D shapes:

1. Draw a triangle with one side measuring 2.7cm and one angle measuring 35° . What type of triangle have you drawn?

Draw a square with sides measuring 3.8cm. Use a protractor to check you have four right angles.

Draw a parallelogram with sides measuring 2.4cm and 4.7cm. Measure and label the angles; the diagonally opposite angles should be equal.

4. Draw a triangle with angles measuring 53° and 90° . What type of triangle have you drawn?

5. Draw a rhombus with diagonally opposite angles measuring 113° and 67° . How long do the sides measure?

6. Draw an irregular pentagon with one angle measuring 90° . Measure and label all the angles and sides.

Expert 2D Shape Drawing

I can draw 2D shapes using given dimensions and angles.

Use the given lengths and angles to draw these 2D shapes:

1. Draw a triangle with one side measuring 3cm and one angle measuring 40° .

Draw a square with sides measuring 3.5cm.

Draw a rectangle with sides measuring 2.5cm and 4.5cm.

4. Draw a triangle with angles measuring 50° , 30° and 100° .

5. Draw a rhombus with diagonally opposite angles measuring 110° and 70° .

6. Draw a regular pentagon with angles measuring 108° .

Expert 2D Shape Drawing

I can draw 2D shapes using given dimensions and angles.

Use the given lengths and angles to draw these 2D shapes:

1. Draw an equilateral triangle with sides of 4cm.

2. Draw a square with sides of 3cm.

3. Draw a rectangle with sides of 2cm and 4.5cm.

4. Draw an isosceles triangle with the short side measuring 1 cm.

5. Draw a rhombus with sides measuring 2.5cm.

6. Draw a scalene triangle with one side measuring 2cm.