

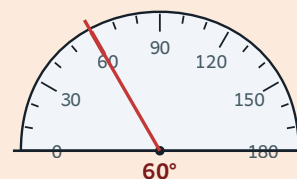
Measuring angles with a protractor

MODULE 6 · 2D AND 3D SHAPE, ANGLES, SYMMETRY

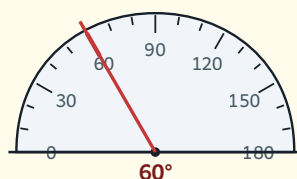
SHAPE & SPACE

Place the protractor's **centre** on the vertex and its **0° line** along one arm of the angle. Read where the other arm crosses the scale. Use the scale that runs from your 0° line — choose the inner or outer scale carefully.

- If the 0° line runs left-to-right and the arm goes up-right, read from the **inner scale** (0° at the right).
- If the angle looks **acute** ($< 90^\circ$), your reading should be **less than 90°** — double-check the scale.



READING A 60° ANGLE ON THE PROTRACTOR



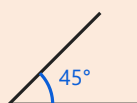
- 1 Line up the **centre cross** of the protractor on the **vertex** of the angle.
- 2 Set the **0° baseline** along one of the angle's arms.
- 3 Read the scale that **starts at 0** on that arm — follow it round to where the second arm crosses the scale. Here it crosses at **60°**.

HOW TO ANSWER TODAY

- **Classify an angle.** Acute $< 90^\circ$ · right = 90° · obtuse 90° – 180° · straight = 180° · reflex $> 180^\circ$.
 $75^\circ \rightarrow$ acute · $120^\circ \rightarrow$ obtuse · $220^\circ \rightarrow$ reflex
- **Read a protractor.** Protractors have two scales. Pick the one that reads 0° on the side the angle's first arm sits on.
 First arm on outer 0° → use the outer scale to read the second arm

WARM-UP

1



For Engineers Week, 5th class are cutting timber brackets in the woodwork room. Tadhg marks an angle of **45°** on his bracket before cutting. Is this angle acute, right, obtuse, straight or reflex?

- 2 Cian is measuring an angle on the giant chess board painted on the school yard using a protractor. One scale on his protractor reads **48°** and the other scale reads **132°**. The angle clearly looks acute. Which reading is correct?

On a protractor, one scale reads 48° and the other scale reads 132° . Which reading is correct if the angle looks acute?