

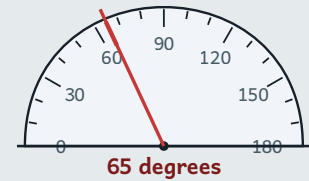
## Measuring angles accurately with a protractor

MODULE 7 · 2D SHAPE, 3D SHAPE AND ANGLES REVIEW

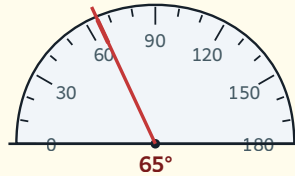
A **protractor** measures angles in degrees. Put the centre on the vertex, a zero line along one arm, and read where the other arm crosses.

→ Use the scale that starts at  $0^\circ$  on your baseline arm.

→ A right angle is  $90^\circ$ ; a straight angle is  $180^\circ$ .



### MEASURE THIS ANGLE WITH A PROTRACTOR



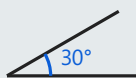
- 1 Put the protractor's **centre cross on the vertex**.
- 2 Lay the  $0^\circ$  **line along one arm**.
- 3 Read the scale that starts at 0 on that arm where the other arm crosses →  $65^\circ$ .

### HOW TO ANSWER TODAY

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

### WARM-UP

1



Mr Ó Briain is marking out a mini athletics track in the yard for 5th class sports day. He draws two chalk lines from the starting cone, and a protractor shows the lines meet at an angle of  $30^\circ$ . Is this angle acute, right, obtuse, straight or reflex?

- 2 Cara is using a protractor to draw an acute angle on a paper shamrock for the Seachtain na Gaeilge class door display. The protractor has two scales: one reads  $48^\circ$  and the other reads  $132^\circ$ . Which reading should she use for the acute angle?

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