Construction: triangles from sides, bisecting lines and angles

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

HOW TO ANSWER TODAY

- **Triangle facts.** Equilateral = all 3 sides equal. Isosceles = 2 equal. Scalene = all different. A triangle works only if the two shorter sides ADD UP TO MORE than the longest.
  5, 5, 7 → isosceles 2, 3, 9 → impossible (2 + 3 = 5 < 9)
- **Name a 2D shape.** Count sides, check which are equal, count right angles, check parallel pairs. Then name it.
  4 equal sides, 0 right angles → rhombus 4 sides, 1 pair parallel → trapezium

STRETCH PROBLEMS

1. Niamh draws a triangular bunting flag for the school yard sports day. The three sides of the flag measure **8 cm**, **17 cm** and **17 cm**. What kind of triangle is the flag (equilateral, isosceles, right-angled or scalene)?

2. Cian is painting shapes onto a banner for the GAA county finals day. His teacher asks him to add a shape with **6** equal sides and **6** equal angles in the centre. Which 2D shape should Cian paint?

3. Oisín is cutting flat panels from cereal boxes for a junk-modelling project in 5th class. One panel has **4** sides with **2** pairs of equal length and **4** right angles. Which 2D shape is the panel?

4. Cian is drawing a treasure hunt map of the school yard and marks a corner with an angle of **78°** between two paths. He bisects the angle to draw a new path exactly down the middle. What is the size of each half angle?

5. At the after-school crafts club, Oisín is cutting fabric panels for a kite. One panel has **3** sides with exactly **2** sides equal in length. What is the name of this 2D shape?

SHAPE & SPACE