

Regular and irregular polygons – pentagon, hexagon and octagon

WHAT THIS LESSON TEACHES

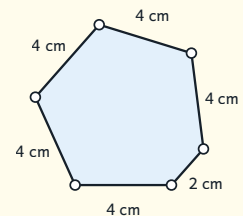
A polygon is a closed flat shape made only of straight sides. It is regular when all its sides are equal and all its corners are equal; it is irregular when at least one side or corner is different.

- A regular hexagon has 6 equal sides, like a honeycomb cell.
- An octagon has 8 sides; a pentagon has 5 sides.

MODEL THIS ON THE BOARD

IS THIS HEXAGON REGULAR OR IRREGULAR?

- 1 Count the straight sides: this shape has **6** sides, so it is a hexagon.
- 2 Compare the side lengths shown: five sides are **4 cm** but one side is only **2 cm**.
- 3 At least one side is different, so this hexagon is **irregular**.



hexagon

DISCUSSION STARTER

REFLECT How can you tell at a glance whether a polygon is regular or irregular?

ANSWER KEY

Scaffold: visual check on the page

Q1: regular

Q2: irregular

a) Always — Regular means every side and every corner match, so all sides are equal.

b) Always — Every hexagon, regular or irregular, has exactly 6 sides.

c) Never — A polygon is made only of straight sides, so it never has a curved side.

d) Sometimes — A hexagon is regular only when all six sides and corners match, otherwise it is irregular.

EXTENSION SHEET · STRETCH ANSWERS

S1: 25 cm

S2: 12 cm

S3: a parallelogram

S4: a regular hexagon

S5: a rhombus