Pythagoras converse: conditions and combined problems — Further practice

Year 8, lower volume • text pp. 19–26 • textbook lessons 10–13

Further practice 11

Can sides 1.5, 2, 2.5 cm form a right triangle? Check existence and identify the longest side first.

Further practice 12

Can sides 5, 5, 6 cm form a right triangle? Check existence and identify the longest side first.

Further practice 13

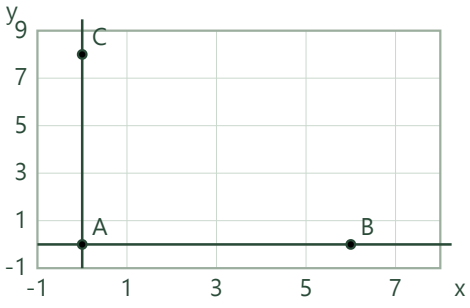
A rectangle has diagonal 5 cm and width 3 cm. Find its length.

Further practice 14

Can sides 29, 20, 21 cm form a right triangle? Check existence and identify the longest side first.

Extension 15

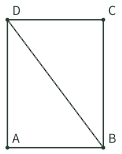
A=$(0, 0)$, B=$(6, 0)$, C=$(0, 8)$. Verify the three lengths and use the converse to identify the right angle.



Use the stated conditions and the labelled scales.

Extension 16

A parallelogram has adjacent sides 6 cm and 8 cm, and the diagonal joining their free endpoints is 10 cm. Prove it is a rectangle.



Geometry diagram; not drawn to scale except for construction tasks.