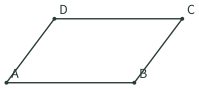
Parallelograms: properties, criteria and midsegments — Further practice

Year 8, lower volume • text pp. 27–36 • textbook lessons 14–18

Further practice 11

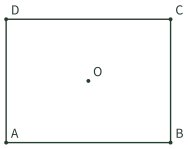
ABCD is a parallelogram with AD=5 cm. Find BC.



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

Further practice 12

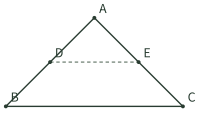
A rectangle ABCD has diagonal AC=10 cm. Its diagonals meet at O. Find AO using a parallelogram property.



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

Further practice 13

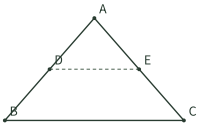
D,E are midpoints of AB,AC and BC=12 cm. Find DE and its direction relative to BC.



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

Further practice 14

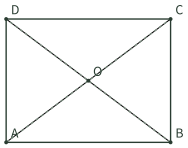
D,E are midpoints of two triangle sides and DE=7 cm. Find the third side BC.



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

Extension 15

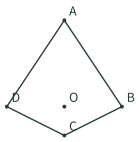
A parallelogram has diagonals AC=BD=10 cm, meeting at O, and AB=8 cm. Are the diagonals perpendicular? Test this using Pythagoras. Then state an extra side condition that would give a rhombus.



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

Extension 16

AC bisects BD, but AO≠OC. Must ABCD be a parallelogram? Explain using the shown kite.



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