MEMORANDUM

Name: ..... Class: .....

Date: .....

MARK ____ / 12

Answer all questions. Show all your working — marks are awarded for method as well as the final answer. **Teacher copy: accept any correct equivalent method.**

1 State the midpoint theorem. (2)

> The line joining the midpoints of two sides of a triangle is **parallel to the third side and half its length**. ✓✓ (2)

2 D and E are midpoints of AB and AC; BC = 14 cm. Find DE. (1)

> **7 cm** ✓ (1)

3 D and E are midpoints of AB and AC; BC = 25 cm. Find DE. (1)

> **12,5 cm** ✓ (1)

4 D and E are midpoints; DE = 6,5 cm. Find BC. (1)

> **13 cm** ✓ (1)

5 D and E are midpoints; DE = 9 cm. Find BC. (1)

> **18 cm** ✓ (1)

6 State the converse of the midpoint theorem. (2)

> A line through the midpoint of one side, **parallel** to a second side, **bisects** the third side. ✓✓ (2)

7 D is the midpoint of AB and DE ∥ BC. What can you conclude about E? (2)

> E is the **midpoint of AC** (converse of the midpoint theorem). ✓✓ (2)

8 Why are △ADE and △ABC similar? (2)

> DE ∥ BC gives equal corresponding angles and Â is common, so they are **equiangular** — and equiangular triangles are similar (AD : AB = AE : AC = 1 : 2). ✓✓ (2)

TOTAL: 12 marks

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