MEMORANDUM

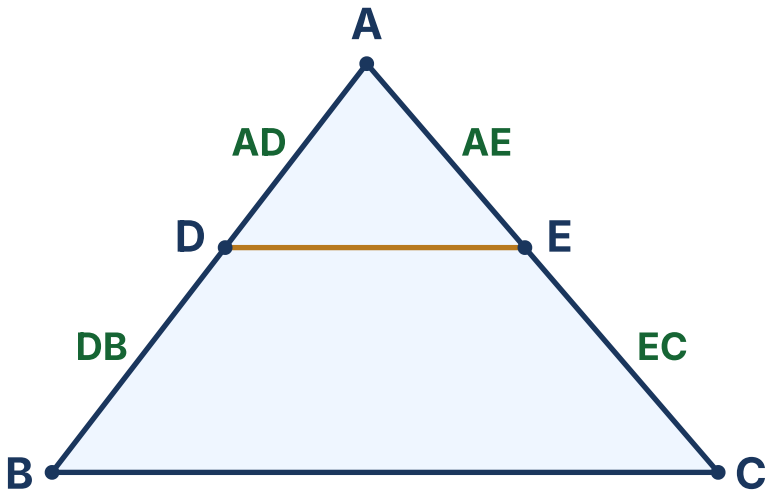
Name: ..... Class: .....

Date: .....

MARK ____ / 20

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.**

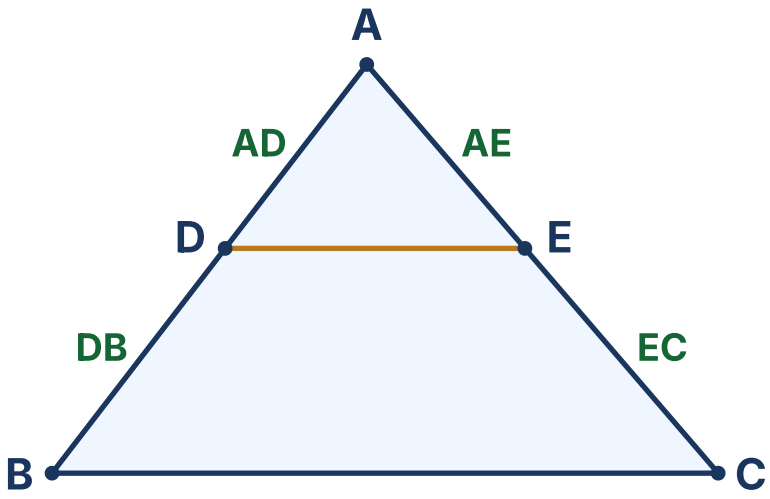
1 In △ABC below, DE ∥ BC. Write down the proportion that follows, with a reason. (2)



DE ∥ BC

$\frac{AD}{DB} = \frac{AE}{EC}$ **(line ∥ one side of △)** ✓✓ (2)

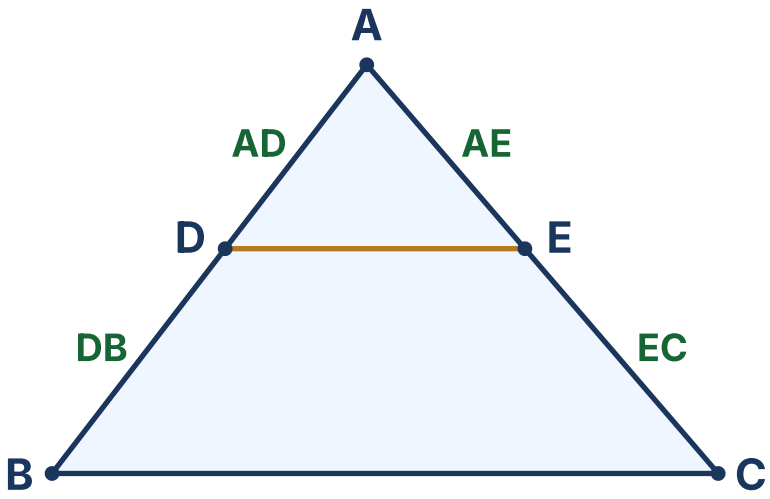
2 DE ∥ BC with AD = 4, DB = 6 and AE = 5. Calculate EC. **(3)**



DE ∥ BC

$\frac{4}{6} = \frac{5}{EC} \rightarrow$ **EC = 7,5** ✓✓✓ (3)

3 In △ABC below with DE ∥ BC, prove that △ADE ||| △ABC. **(4)**



DE ∥ BC

Â common; AD̂E = AB̂C and AÊD = AĈB (corresponding ∠s, DE ∥ BC) → △**ADE ||| △ABC (AAA)** ✓✓✓✓ (4)

4 If AD = 4 and DB = 6, write down the length of AB. **(1)**

4 + 6 = **10** ✓ (1)

5 How many pairs of equal angles must you prove for AAA? **(1)**

Two — the third follows because the angles of a triangle add to 180°. ✓ (1)

6 $\triangle ABC \,|||\, \triangle DEF$ with $AB = 8$, $DE = 12$ and $BC = 10$. Calculate EF. **(3)**

> $\frac{8}{12} = \frac{10}{EF} \rightarrow$ **EF = 15** ✓✓✓ (3)

7 State the reason you must quote when using the proportion theorem. **(1)**

> **(line ∥ one side of △)** ✓ (1)

8 Two triangles are equiangular. What can you conclude? **(2)**

> They are **similar**, so their corresponding sides are in proportion. ✓✓ (2)

9 The sides of $\triangle ABC$ are 4 cm, 6 cm and 8 cm. The sides of $\triangle KLM$ are 6 cm, 9 cm and 12 cm. Are the triangles similar? Give a reason. **(3)**

> $\frac{6}{4} = \frac{9}{6} = \frac{12}{8} = 1{,}5$ ✓✓, so the sides are in proportion and the triangles are **similar** (sides of △ in prop) ✓ (3)

TOTAL: 20 marks

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