Corresponding lengths in similar figures

6 questions | 11 marks

Equivalent correct methods earn the corresponding marks.

1. If $\triangle ABC \sim \triangle KLM$, name the side corresponding to AC. [1 mark]

A matches K and C matches M, so AC matches KM.

Answer: KM

2. If $\triangle ABC \sim \triangle KLM$, name the angle corresponding to B. [1 mark]

B is the second letter; L is the second letter.

Answer: Angle L

3. Triangles have corresponding side lengths $(4, 6, 8)$ and $(6, 9, 12)$. Find the scale factor from first to second. [2 marks]

$\frac{6}{4} = \frac{9}{6} = \frac{12}{8} = 1.5$.

Answer: 1.5

4. Two triangles have angles $(35^\circ, 65^\circ, 80^\circ)$ and $(80^\circ, 35^\circ, 65^\circ)$. Are they similar? Explain. [2 marks]

Their three corresponding angles are equal, despite a different listed order.

The AA angle test establishes similarity.

Answer: Yes.

5. A learner uses $\frac{AB}{DE} = \frac{BC}{DF}$ for $\triangle ABC \sim \triangle DEF$. Explain the mismatch. [3 marks]

The statement matches B to E and C to F.

A consistent ratio is $\frac{AB}{DE} = \frac{BC}{EF}$.

Answer: BC must be paired with EF, not DF.

6. Can sides $(3, 4, 5)$ and $(6, 8, 11)$ be corresponding sides of similar triangles? [2 marks]

$\frac{6}{3} = 2$ and $\frac{8}{4} = 2$, but $\frac{11}{5} = 2.2$.

There is no single scale factor.

Answer: No.