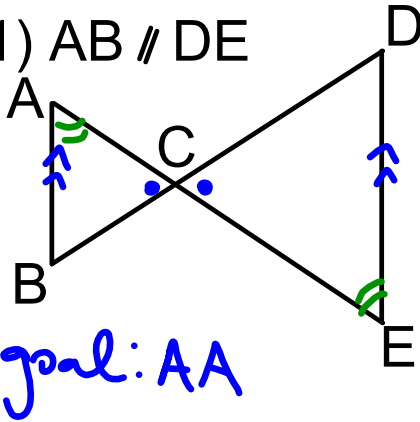


# Proving Triangles are Similar

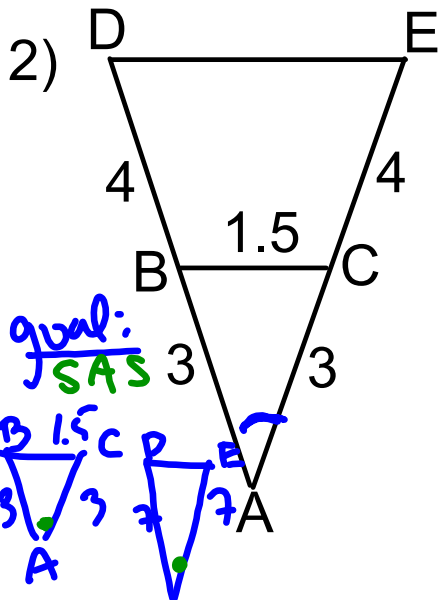
Prove triangles ABC and CDE are similar.

1)  $AB \parallel DE$

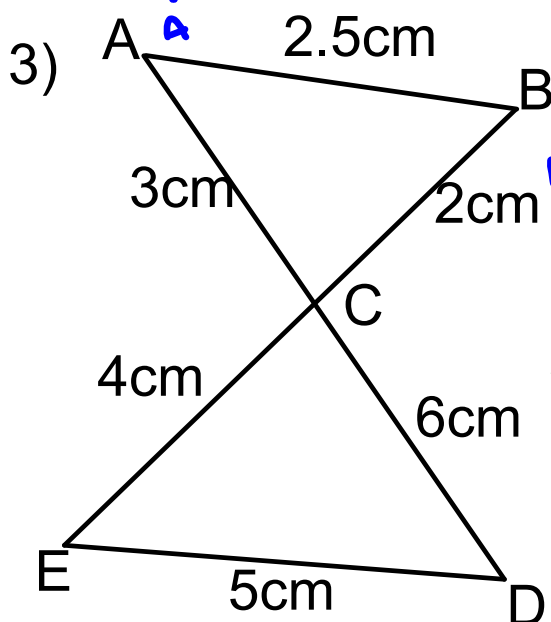


goal: AA

Statement	Justification
1. $\angle ACB \cong \angle DCE$	Vertically opposite angles are equal
2. $\angle BAC \cong \angle DEC$	Alternate Interior angles are equal on parallel lines.
3. $\triangle ABC \sim \triangle CDE$	AA



Statement	Justification
1. $\angle BAC \cong \angle DAE$	Common Angle
2. $\frac{AB}{AD} = \frac{AC}{AE}$	$\frac{3}{4} = \frac{3}{4}$
3. $\triangle ABC \sim \triangle ADE$	SAS



Statement	Justification
1. $\frac{AB}{ED} = \frac{BC}{EC} = \frac{AC}{DC}$	$\frac{2.5}{5} = \frac{2}{4} = \frac{3}{6}$ $= \frac{1}{2}$
2. $\triangle ABC \sim \triangle CED$	SSS