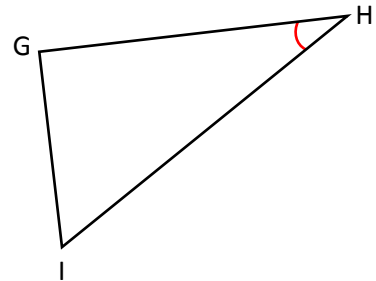
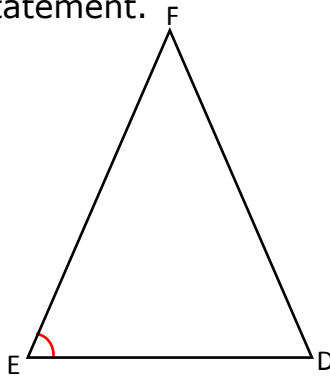
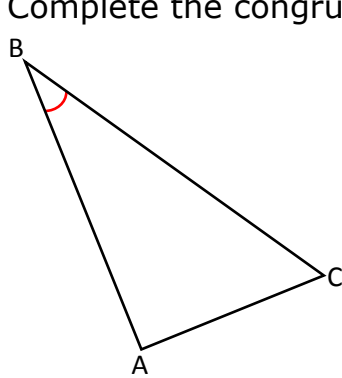


Congruent Triangles: SSS and SAS Theorems - Step-by-Step Lesson

Which two triangles are congruent by the SAS Theorem?

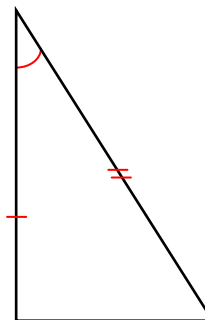
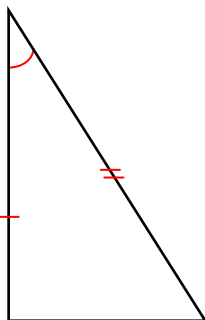
Complete the congruence statement.



\triangle \triangle

Explanation:

You can identify two triangles as being congruent when they are the same size and shape. SAS is another method for identifying congruent triangles.



SAS (side-angle-side)

Two sides and the angle between them are congruent

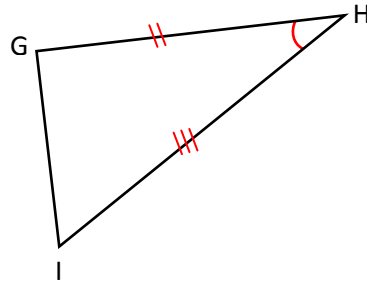
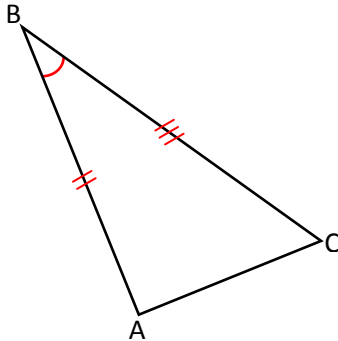
The SAS Theorem states that two triangles are congruent if and only if two sides and the included angle of one triangle are congruent to two sides and the included angle of the other triangle.



Name _____

Date _____

Find the two triangles with two pairs of congruent sides and congruent included angles.



$$\overline{AB} \cong \overline{HG} \quad \text{side}$$

$$\angle B \cong \angle H \quad \text{Angle}$$

$$\overline{BC} \cong \overline{IH} \quad \text{side}$$

Two sides and the included angle of $\triangle BAC$ are congruent to two sides and the included angle of $\triangle HGI$, so these triangles are congruent by the SAS theorem.

To write the congruence statement, match the corresponding vertices. Since $\angle B \cong \angle H$, B corresponds to H. Also, since the side opposite C corresponds to the side opposite I, p corresponds to I.

Similarly, A corresponds to G. so, $\triangle CAB \cong \triangle IGH$.

