7.3 & 7.4 – Similarity by AA, SSS, & SAS

Determine whether the triangles are similar. If so, write a similarity statement and name the postulate or theorem you used.















Show that the two triangles are similar by identifying the postulate or theorem that proves that they are similar, Then identify the parts that are congruent and/or proportional.



In the following, is it possible for $\triangle ABC$ and $\triangle XYZ$ to be similar? Explain your reasoning.

17) $m \angle A = 43^\circ, m \angle B = 61^\circ, m \angle Y = 61^\circ, \text{ and } m \angle Z = 74^\circ$

18) $\angle A$ and $\angle X$ are right angles and $\angle B \cong \angle Z$.

19) $\angle A$ and $\angle X$ are supplementary and $\angle B$ and $\angle Z$ are complementary.

Find the value of x that makes $\triangle ABC \sim \triangle RST$. Show all work.



22) Use the figure to find the values of *x*, *y*, and *z* that makes $\triangle DEF \sim \triangle HGF$.

