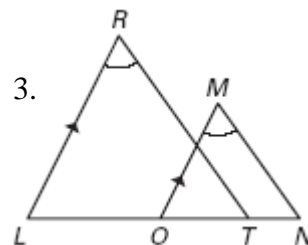
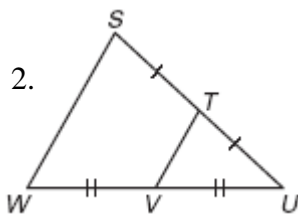
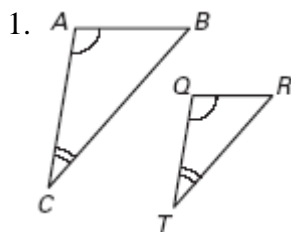


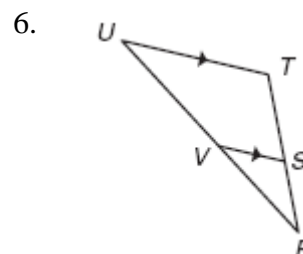
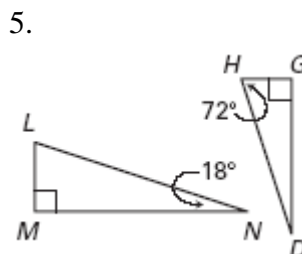
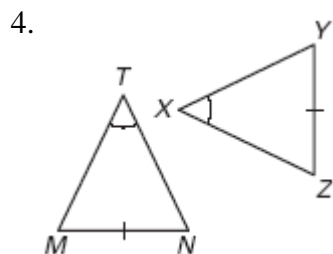
Name _____

Practice 6.4 & 6.5 Prove Triangles Similar by AA, SSS and SAS

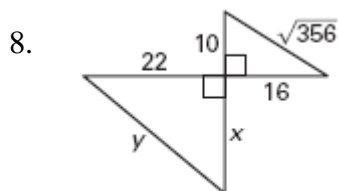
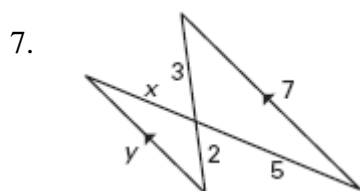
Determine whether the triangles are *similar*, *not similar*, or *cannot be determined* from the information given in the figure.



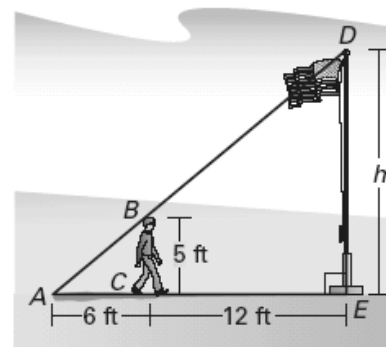
Determine whether the triangles can be proved similar. If they are similar, write a similarity statement. *Explain your reasoning.*



If possible, find the values of the variables.

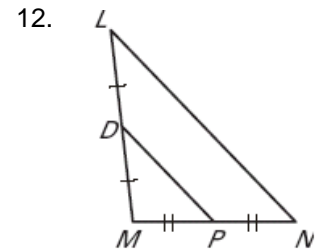
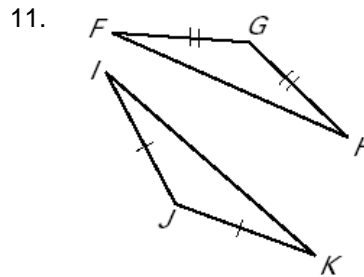
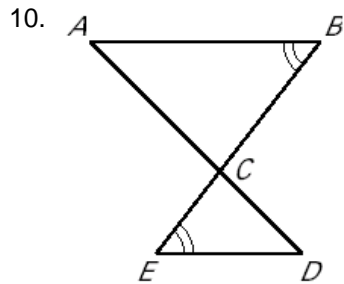


9. **Flag Pole** In order to estimate the height h of a flag pole, a 5 foot tall male student stands so that the tip of his shadow coincides with the tip of the flag pole's shadow. This scenario results in two similar triangles as shown in the diagram.

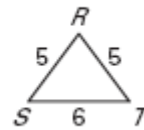
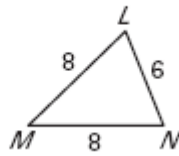
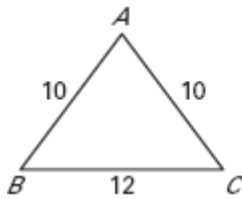


- Why are the two overlapping triangles similar?
- Using the similar triangles, write a proportion that models the situation.
- What is the height h (in feet) of the flag pole?

Are the triangles similar? If so, state the similarity and the postulate or theorem that justifies your answer.



13. Is either $\triangle LMN$ or $\triangle RST$ similar to $\triangle ABC$?



14. **Algebra** Find the value of m that makes $\triangle ABC \sim \triangle DEF$ when $AB = 3$, $BC = 4$, $DE = 2m$, $EF = m + 5$, and $\angle B \cong \angle E$.

15. Sketch the triangles using the given description. *Explain* whether the triangles can be similar.

In $\triangle ABC$, $m\angle B = 50^\circ$, $AB = 4$, and $BC = 9$. In $\triangle XYZ$, $m\angle Y = 50^\circ$, $XY = 2$, and $YZ = 4.5$.

Find the values of the variables that make $\triangle ABC \sim \triangle DEF$.

