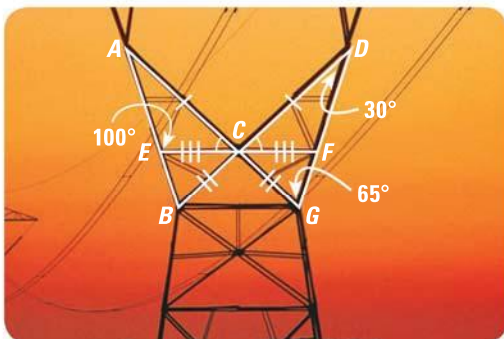




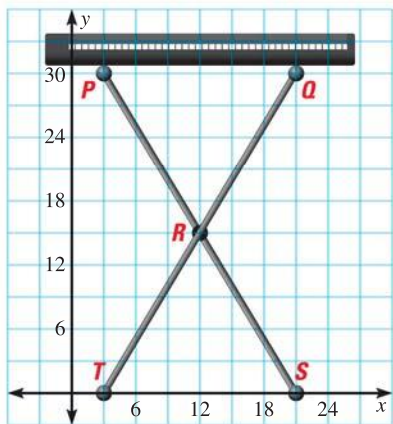
Lessons 4.1–4.4

1. **MULTI-STEP PROBLEM** In the diagram, $\overline{AC} \cong \overline{CD}$, $\overline{BC} \cong \overline{CG}$, $\overline{EC} \cong \overline{CF}$, and $\angle ACE \cong \angle DCF$.

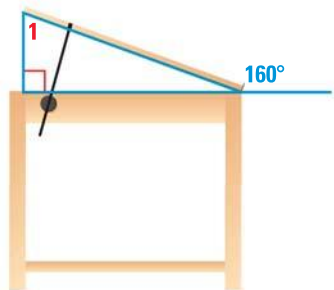


- Classify each triangle in the figure by angles.
- Classify each triangle in the figure by sides.

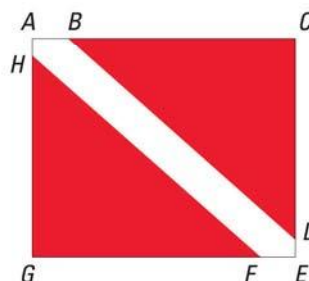
2. **OPEN-ENDED** Explain how you know that $\triangle PQR \cong \triangle STR$ in the keyboard stand shown.



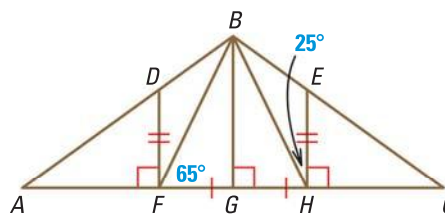
3. **GRIDDED ANSWER** In the diagram below, find the measure of $\angle 1$ in degrees.



4. **SHORT RESPONSE** A rectangular “diver down” flag is used to indicate that scuba divers are in the water. On the flag, $\overline{AB} \cong \overline{FE}$, $\overline{AH} \cong \overline{DE}$, $\overline{CE} \cong \overline{AG}$, and $\overline{EG} \cong \overline{AC}$. Also, $\angle A$, $\angle C$, $\angle E$, and $\angle G$ are right angles. Is $\triangle BCD \cong \triangle FGH$? Explain.



5. **EXTENDED RESPONSE** A roof truss is a network of pieces of wood that forms a stable structure to support a roof, as shown below.



- Prove that $\triangle FGB \cong \triangle HGB$.
 - Is $\triangle BDF \cong \triangle BEH$? If so, prove it.
6. **GRIDDED ANSWER** In the diagram below, $BAFC \cong DEFC$. Find the value of x .

