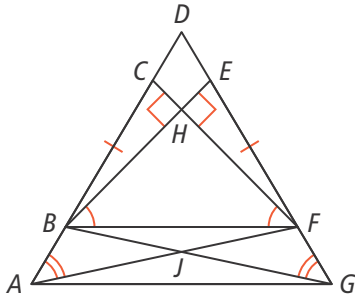


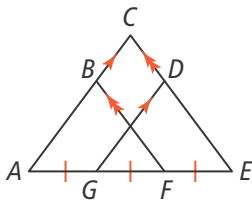


UNDERSTAND

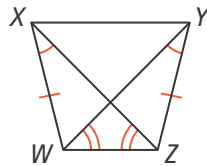
12. **Construct Arguments** Write a proof to show that $\overline{AF} \cong \overline{GB}$.



13. **Mathematical Connections** Explain why $\triangle ABF \cong \triangle GDE$.



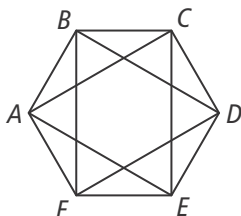
14. **Error Analysis** Dyani wrote a proof to show that $\angle XWY \cong \angle YZX$. What is her error?



Since $\angle WXZ \cong \angle ZYW$,
 $\angle XZW \cong \angle YWX$, and $\overline{XW} \cong \overline{YZ}$, by
 AAS, $\triangle XWZ \cong \triangle YWZ$. Therefore,
 by CPCTC, $\angle XWY \cong \angle YZX$.

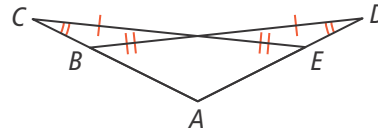


15. **Higher Order Thinking** Hexagon $ABCDEF$ is a regular hexagon with all sides and angles congruent. List all sets of congruent triangles with vertices that are also vertices of the hexagon, and list all sets of congruent quadrilaterals with vertices that are also vertices of the hexagon.



PRACTICE

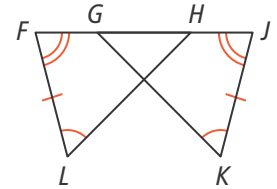
16. What are the corresponding parts of $\triangle CAE$ and $\triangle DAB$? SEE EXAMPLE 1



For Exercises 17–20, identify which side or angle is congruent to each given part. SEE EXAMPLE 2

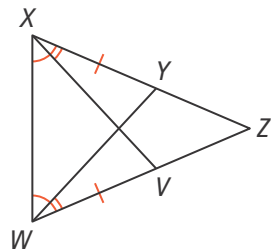
17. $\angle JGK$

18. \overline{HL}

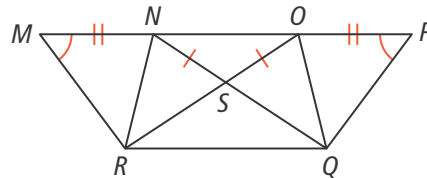


19. $\angle WYZ$

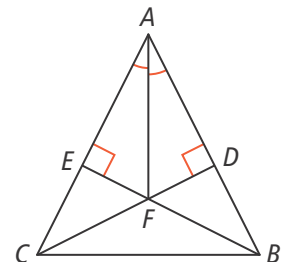
20. \overline{XV}



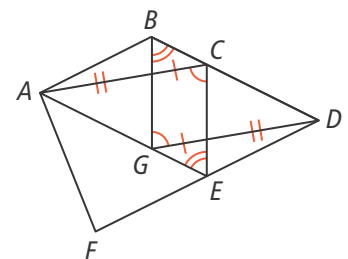
21. Write a proof to show triangles $\triangle MRO$ and $\triangle PQN$ are congruent. SEE EXAMPLE 3



22. Write a proof to show that $\triangle BCE \cong \triangle CBD$. SEE EXAMPLE 3

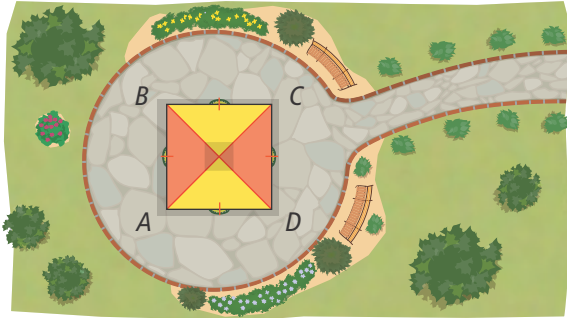


23. Draw separate diagrams showing $\triangle AEC$ and $\triangle DBG$. SEE EXAMPLE 4

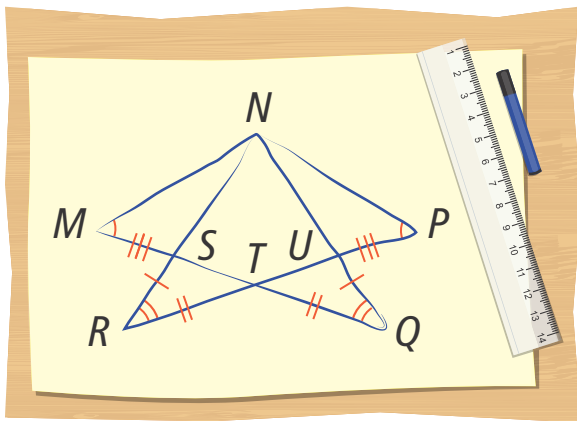


APPLY

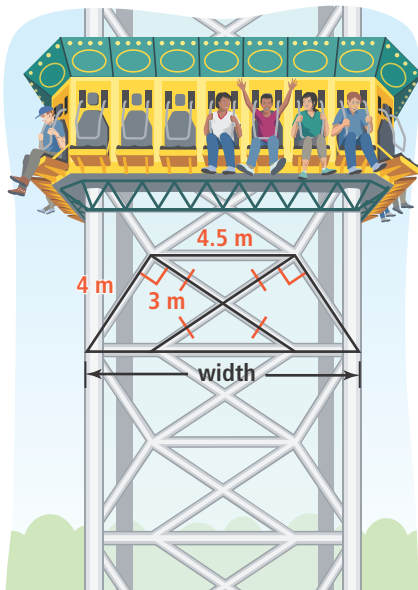
24. **Construct Arguments** Parker wants to place red trim along the seams, \overline{AC} and \overline{BD} , of a patio umbrella. He assumes they are the same length. Is he correct? Explain.



25. **Reason** A student is checking whether the design she drew is symmetric. Can she determine whether \overline{MN} and \overline{PN} are the same length? Explain.

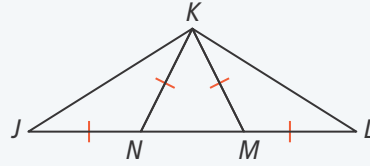


26. **Look for Relationships** The support for a drop tower ride is shown in the diagram. What is the width of the support? Round to the nearest hundredth.



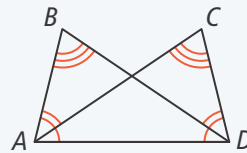
ASSESSMENT PRACTICE

27. Which statements are true? Select all that apply.



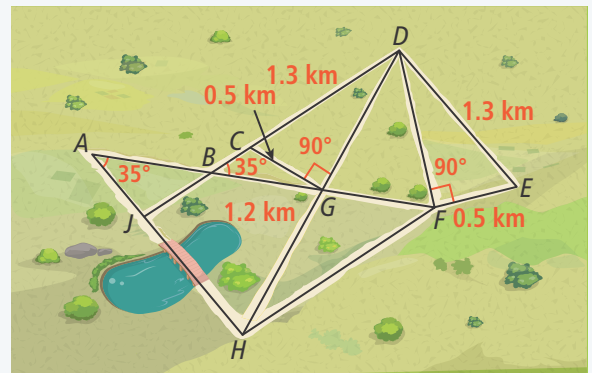
- (A) $\overline{KN} \cong \overline{KL}$ (C) $\angle KJN \cong \angle KLM$
(B) $\triangle KMJ \cong \triangle KNL$ (D) $\overline{MJ} \cong \overline{NL}$

28. **SAT/ACT** Which theorem could you use to prove $\triangle ABD \cong \triangle DCA$?



- (A) SAS (C) SSS
(B) AAS (D) AAA

29. **Performance Task** The diagram shows running trails at a park.



Part A Lucy ran the triangular route represented by $\triangle BDF$. Kaitlyn starts from point H and wants to run the same distance as Lucy. What triangular route can Kaitlyn run? Explain.

Part B Draw separate triangles to represent the routes the two girls ran. Label as many side lengths and angle measures as you can determine.

Part C Can you determine the distances that the girls ran? Explain.