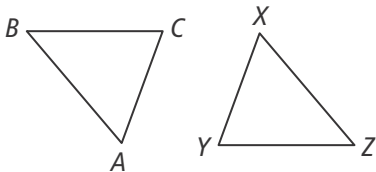**UNDERSTAND** ▶

12. Error Analysis Zhang says △*ABC* is congruent to △*ADC*. Explain the error in Zhang's work.

$\overline{AD} \cong \overline{CD}$
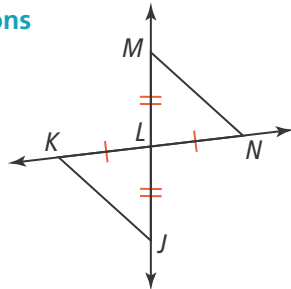$\overline{AC} \cong \overline{AC}$
$\angle DCA \cong \angle BCA$

Therefore,
△*ABC* ≅ △*ADC* by SAS ✗

13. Construct Arguments Given △*ABC* ≅ △*XYZ*, use a rigid motion to prove Theorem 4-4, Corresponding Parts of Congruent Triangles are Congruent.

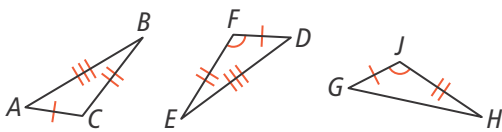**14. Mathematical Connections** Is △*JKL* congruent to △*MNL*? Explain.
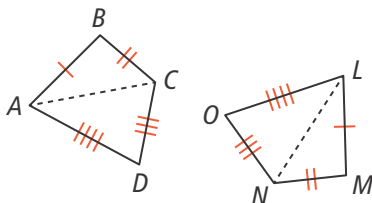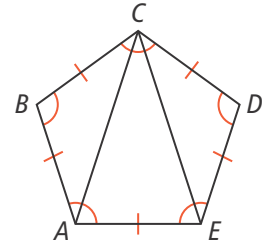
15. Make Sense and Persevere Why is △*ABC* ≅ △*GHJ*?

16. Higher Order Thinking Given quadrilaterals *ABCD* and *LMNO*, and $\overline{AC} \cong \overline{LN}$, how can you show that the corresponding angles of the quadrilaterals are congruent?
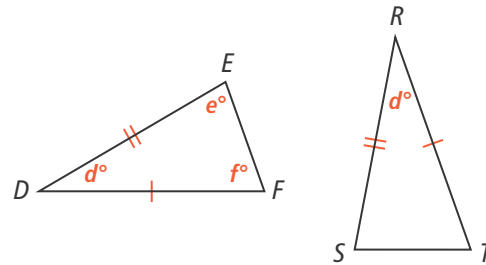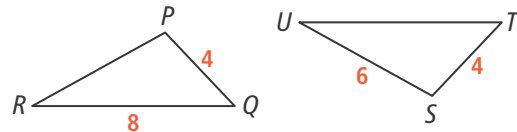
PRACTICE ▶

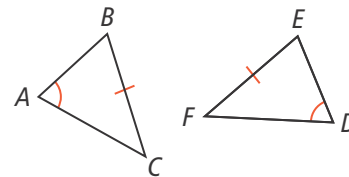**17.** Prove △*ACE* is an isosceles triangle.
SEE EXAMPLES 1 AND 2
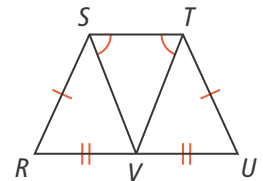
18. What is *m∠RTS*? Justify your answer.
SEE EXAMPLES 1 AND 2

19. What additional information is needed to show that △*PQR* ≅ △*STU* by SSS? SEE EXAMPLE 3

20. What additional information is needed to show that △*ABC* ≅ △*DEF*? SEE EXAMPLE 3

21. Is △*RSV* ≅ △*UTV*? Explain.
SEE EXAMPLE 4

**22.** Is △*PQR* ≅ △*PSR*? Explain.
SEE EXAMPLE 4
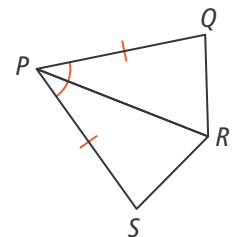
APPLY

23. Critique Reasoning Kathryn runs from the northwest corner to the southeast corner of a rugby field and Mia runs from the northeast corner to the southwest corner. Mia says she ran farther. Is she correct? Explain.

10m

16m
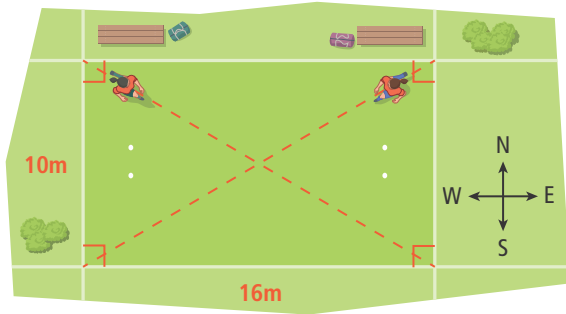
24. Reason Following the route shown, what is the total distance traveled by the architectural tour if it ends where it started? What properties and theorems did you use to find the distance?

First Turn
350 ft
Intersection
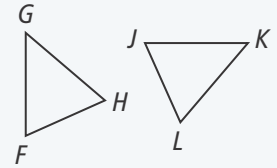300 ft
200 ft
350 ft
300 ft
Start
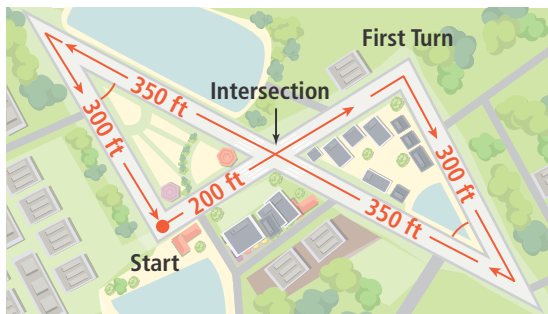
25. Make Sense and Persevere Justice and Leah both made a triangular scarf. Do the scarves have the same size and shape? What do you notice about the information that is given?
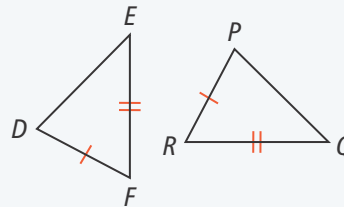
36 in.

26 in.

36 in.   26 in.
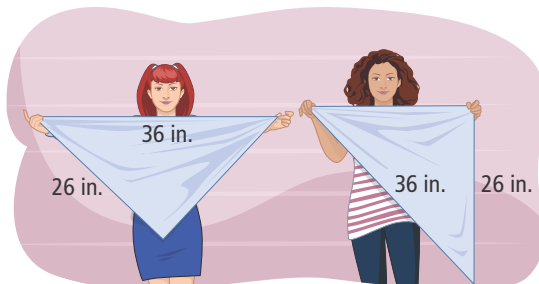
ASSESSMENT PRACTICE

26. Which sets of congruent parts are sufficient to conclude that △FGH ≅ △JKL? Select *Yes* or *No*.

	Yes	No
$\overline{FG} \cong \overline{JK}, \overline{GH} \cong \overline{KL}, \overline{FH} \cong \overline{JL}$		
$\overline{FG} \cong \overline{JK}, \overline{FH} \cong \overline{JL}, \angle FHG \cong \angle JLK$		
$\overline{GH} \cong \overline{KL}, \overline{FG} \cong \overline{JK}, \angle FGH \cong \angle JKL$		
$\overline{GH} \cong \overline{KL}, \overline{FH} \cong \overline{JL}, \angle FHG \cong \angle JLK$		

27. SAT/ACT Consider △DEF and △PQR. Which additional piece of information would allow you to conclude that △DEF ≅ △PQR?

Ⓐ ∠D ≅ ∠P   Ⓒ ∠D ≅ ∠Q

Ⓑ ∠E ≅ ∠Q   Ⓓ ∠F ≅ ∠R

28. Performance Task In a marching band show, Kayden and Latoya start 10 yards apart. Kayden marches the path in blue and Latoya marches the path in green.

A
25 yd
110°
20 yd
Kayden
Latoya
10 yd   15 yd
110°
20 yd
B
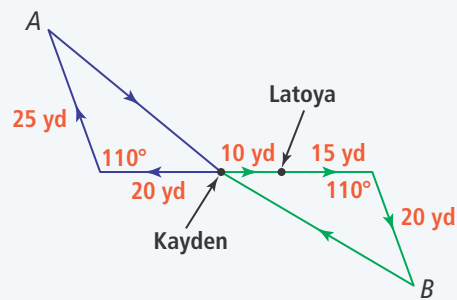
Part A Are the triangles formed by the paths congruent? Explain.

Part B Are the angle measures that Kayden and Latoya turn at points *A* and *B* the same? Explain.