

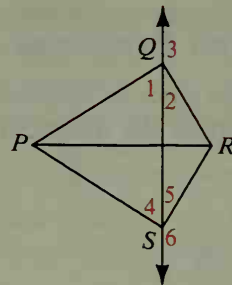
17. a. Copy everything shown and complete the proof.

Given:  $\overline{PQ} \perp \overline{QR}$ ;

$\overline{PS} \perp \overline{SR}$ ;

$\angle 1 \cong \angle 4$

Prove:  $\angle 2 \cong \angle 5$



**Proof:**

Statements	Reasons
1. $\overline{PQ} \perp \overline{QR}$ ; $\overline{PS} \perp \overline{SR}$	1. ?
2. $\angle 2$ is comp. to $\angle 1$ ; $\angle 5$ is comp. to $\angle 4$ .	2. ?
3. $\angle 1 \cong \angle 4$	3. ?
4. $\angle 2 \cong \angle 5$	4. ?

- b. After proving that  $\angle 2 \cong \angle 5$  in part (a), tell how you could go on to prove that  $\angle 3 \cong \angle 6$ .

- B** 18. Prove Theorem 2-8: If two angles are complements of congruent angles, then the two angles are congruent. *Note:* You will need to draw your own diagram and state what is given and what you are to prove in terms of your diagram. (*Hint:* See the proof of Theorem 2-7 on page 61.)

Copy everything shown and write a two-column proof.

19. Given:  $\angle 2 \cong \angle 3$

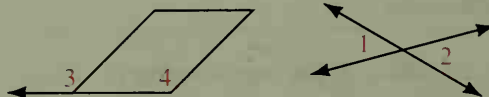
Prove:  $\angle 1 \cong \angle 4$



20. Given:  $\angle 3$  is supp. to  $\angle 1$ ;

$\angle 4$  is supp. to  $\angle 2$ .

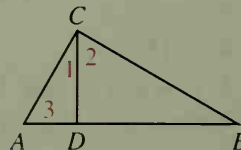
Prove:  $\angle 3 \cong \angle 4$



21. Given:  $\overline{AC} \perp \overline{BC}$ ;

$\angle 3$  is comp. to  $\angle 1$ .

Prove:  $\angle 3 \cong \angle 2$



22. Given:  $m\angle 1 = m\angle 2$ ;

$m\angle 3 = m\angle 4$

Prove:  $\overleftrightarrow{YS} \perp \overleftrightarrow{XZ}$

