

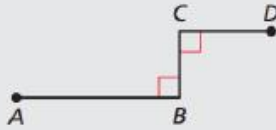
2.6 Assignment (more proofs) – Complete the following proofs:

SELF-ASSESSMENT 1 I don't understand yet. 2 I can do it with help. 3 I can do it on my own. 4 I can teach someone else.

1. Complete the flowchart proof. Then write a two-column proof.

Given $\overline{AB} \perp \overline{BC}, \overline{DC} \perp \overline{BC}$

Prove $\angle B \cong \angle C$



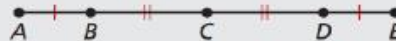
STATEMENTS	REASONS

SELF-ASSESSMENT 1 I don't understand yet. 2 I can do it with help. 3 I can do it on my own. 4 I can teach someone else.

2. Complete the two-column proof. Then write a flowchart proof.

Given $AB = DE, BC = CD$

Prove $\overline{AC} \cong \overline{CE}$



STATEMENTS	REASONS
1. $AB = DE, BC = CD$	1. Given
2. $AB + BC = BC + DE$	2. Addition Property of Equality
3. _____	3. Substitution Property of Equality
4. $AB + BC = AC, CD + DE = CE$	4. _____
5. _____	5. Substitution Property of Equality
6. $\overline{AC} \cong \overline{CE}$	6. _____

3) Rewrite the following paragraph proof as a two column proof:

EXAMPLE 5

Using the Vertical Angles Congruence Theorem



Write a paragraph proof.

Given $\angle 1 \cong \angle 4$

Prove $\angle 2 \cong \angle 3$

Paragraph Proof

$\angle 1$ and $\angle 4$ are congruent. By the Vertical Angles Congruence Theorem, $\angle 1 \cong \angle 2$ and $\angle 3 \cong \angle 4$. By the Transitive Property of Angle Congruence, $\angle 2 \cong \angle 4$. Using the Transitive Property of Angle Congruence once more, $\angle 2 \cong \angle 3$.



Statements

Reasons

Statements	Reasons

4.

Write a paragraph proof.

Given $\angle 1$ is a right angle.

Prove $\angle 2$ is a right angle.

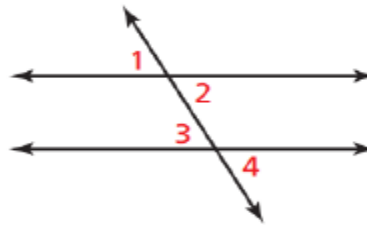


5.

17. **PROOF** Complete the flowchart proof. Then write a two-column proof. (See Example 1.)

Given $\angle 1 \cong \angle 3$

Prove $\angle 2 \cong \angle 4$



STATEMENTS

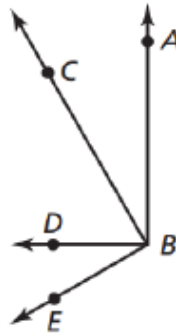
REASONS

STATEMENTS	REASONS

18. **PROOF** Complete the two-column proof. Then write a flowchart proof. (See Example 2.)

Given $\angle ABD$ is a right angle.
 $\angle CBE$ is a right angle.

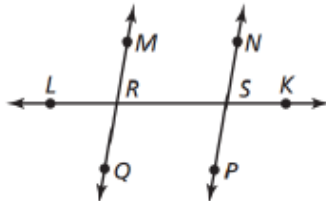
Prove $\angle ABC \cong \angle DBE$



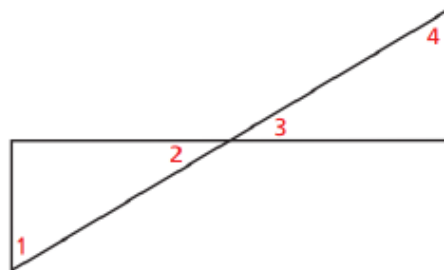
STATEMENTS	REASONS
1. $\angle ABD$ is a right angle. $\angle CBE$ is a right angle.	1. _____
2. $\angle ABC$ and $\angle CBD$ are complementary.	2. Definition of complementary angles
3. $\angle DBE$ and $\angle CBD$ are complementary.	3. _____
4. $\angle ABC \cong \angle DBE$	4. _____

Do the following problems on your own paper (number them with the stated numbers) AS TWO COLUMN PROOFS

23. Given $\angle QRS$ and $\angle PSR$ are supplementary.
Prove $\angle QRL \cong \angle PSR$



24. Given $\angle 1$ and $\angle 3$ are complementary.
 $\angle 2$ and $\angle 4$ are complementary.
Prove $\angle 1 \cong \angle 4$



25. Given $\overline{JK} \perp \overline{JM}$, $\overline{KL} \perp \overline{ML}$,
 $\angle J \cong \angle M$, $\angle K \cong \angle L$
Prove $\overline{JM} \perp \overline{ML}$ and $\overline{JK} \perp \overline{KL}$



26. Given $\angle AEB \cong \angle DEC$
Prove $\angle AEC \cong \angle DEB$

