

CYU 2.6 Geometric Reasoning DAY ONE

Use when you get it right all by yourself

S Use when you did it all by yourself, but made a silly mistake

H Use when you could do it alone with a little help from teacher or peer

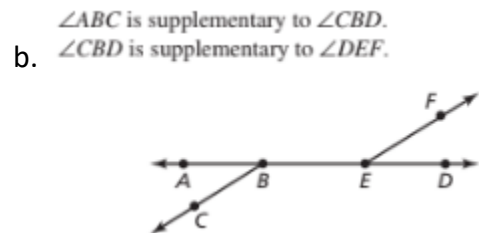
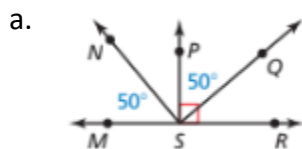
G Use when you completed the problem in a group

X Use when a question was attempted but wrong (get help)

N Use when a question was not even attempted

CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
Addition/Subtraction POE/POC	1, 3	3, 6, 7	3, 8
Multiplication/Division POE/POC	3	3	3
Substitution POE		7	8
Transitive POE/POC		6, 7	4, 8
Def. of Complementary/Supplementary Angles	2	3, 5, 7	3, 6, 8
Def. of Complement/Supplement	1	3, 5, 7	3, 6
Def. of Congruent Angles/Segments	1, 2	3, 5, 7	3, 6, 8
Def. of Linear Pairs/Def. of Vertical Angles	1, 2	3	3, 4, 8

1. Identify the pair(s) of congruent angles in the figures. Explain how you know they are congruent.

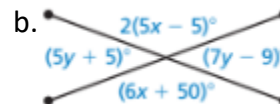
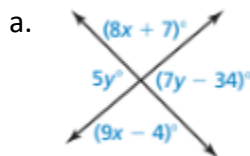


2. Use the diagram and the given angle measure to find the other three measures.

- a. $m\angle 1 = 143^\circ$
- b. $m\angle 3 = 159^\circ$
- c. $m\angle 2 = 34^\circ$

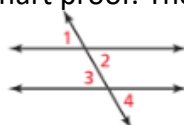


3. Find the values of x and y.



4. Complete the flowchart proof. Then transfer it into a two-column proof.

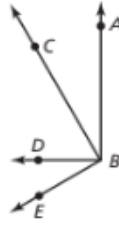
Given $\angle 1 \cong \angle 3$
 Prove $\angle 2 \cong \angle 4$



$\angle 1 \cong \angle 3$	$\angle 1 \cong \angle 2, \angle 3 \cong \angle 4$	$\angle 2 \cong \angle 3$	$\angle 2 \cong \angle 4$
Given	Vertical Angles Congruence Theorem (Theorem 2.6)		

5. Complete the two-column proof and then transfer it into a paragraph proof.

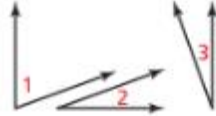
Given $\angle ABD$ is a right angle.
 $\angle CBE$ is a right angle.
Prove $\angle ABC \cong \angle DBE$



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. _____

6. Complete the paragraph proof and then transfer it into a two-column proof.

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



$\angle 1$ and $\angle 2$ are complementary, and $\angle 1$ and $\angle 3$ are complementary. By the definition of _____ angles, $m\angle 1 + m\angle 2 = 90^\circ$ and _____ = 90° . By the _____, $m\angle 1 + m\angle 2 = m\angle 1 + m\angle 3$. By the Subtraction Property of Equality, _____. So, $\angle 2 \cong \angle 3$ by the definition of _____.

7. Complete the two-column proof.

Given $\angle 1$ and $\angle 2$ are supplementary.
 $\angle 3$ and $\angle 4$ are supplementary.
 $\angle 1 \cong \angle 4$



Prove $\angle 2 \cong \angle 3$

STATEMENTS	REASONS
1. $\angle 1$ and $\angle 2$ are supplementary. $\angle 3$ and $\angle 4$ are supplementary. $\angle 1 \cong \angle 4$	1. Given
2. $m\angle 1 + m\angle 2 = 180^\circ$, $m\angle 3 + m\angle 4 = 180^\circ$	2. _____
3. _____ = $m\angle 3 + m\angle 4$	3. Transitive Property of Equality
4. $m\angle 1 = m\angle 4$	4. Definition of congruent angles
5. $m\angle 1 + m\angle 2 =$ _____	5. Substitution Property of Equality
6. $m\angle 2 = m\angle 3$	6. _____
7. _____	7. _____

8. Write a proof using any format.

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



CYU Reflection: How far can you go: basic, intermediate, or advanced?

Rate your mastery level!

How confident are you with the skills this CYU covered? Circle the score you would give yourself.

