

CYU 2.5 Geometric Reasoning DAY TWO Verifying Angles

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

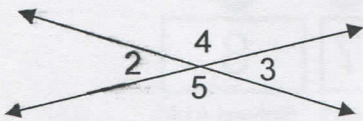
X Use when a question was attempted but wrong (get help)

N Use when a question was not even attempted

CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
Addition/Subtraction POE/POC	4		
Substitution POE	1	8	
Transitive POE/POC	3	10	
Def. of Congruent Angles/Segments	2	11, 12	15 - 21
Def. of Vertical Angles	6		15 - 21
Def. of Complementary/Supplementary Angles	5	9	15 - 21
Def. of Right angles	7		
Angle or Segment Bisector		12	
Def. of Midpoint		13, 14	

Give a reason (property, postulate, theorem or definition) for the following:

- Given: $m\angle 1 + m\angle 2 = 180$, $m\angle 1 = m\angle 3$
Then: $m\angle 3 + m\angle 2 = 180$ Reason: Substitution POE
- Given: $\angle A \cong \angle B$
Then: $m\angle A = m\angle B$ Reason: Def of \cong \angle 's or $lf \cong \Rightarrow =$
- Given: $\overline{AB} \cong \overline{TH}$ & $\overline{TH} \cong \overline{DW}$
Then: $\overline{AB} \cong \overline{DW}$ Reason: Transitive POC
- Given: $m\angle 1 + m\angle 2 = m\angle 3 + m\angle 2$
Then: $m\angle 1 = \angle 3$ Reason: Subtraction POE
- Given: $\angle 2$ and $\angle 4$ are supplementary
Then: $m\angle 2 + m\angle 4 = 180$ Reason: Def. of supplementary \angle 's
- Given: the figure below
Then: $\angle 4 \cong \angle 5$ Reason: Def. of vertical \angle 's



Complete the following:

7. Given: $\angle A$ is a right angle
Reason: Def of Rt \angle

Then: $m\angle A = 90^\circ$

8. Given: $m\angle 8 = 90$ & $m\angle 9 = 90$
Reason: Substitution Property

Then: $m\angle 8 = m\angle 9$

9. Given: $\angle 1$ & $\angle 2$ are complementary
Reason: Def. of complementary \angle 's

Then: $m\angle 1 + m\angle 2 = 90^\circ$

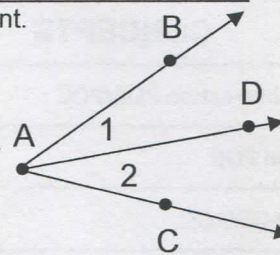
10. Given: $\angle P \cong \angle Q$ & $\angle Q \cong \angle R$
Reason: Transitive prop of congruence

Then: $\angle P \cong \angle R$

11. Given: $AB = PQ$
Reason: If 2 segments have the equal length, then they are congruent.

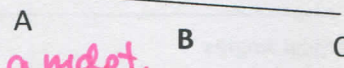
Then: $\overline{AB} \cong \overline{PQ}$

12. Given: \overline{AD} is an angle bisector in the figure to the right
Then: $\angle 1 \cong \angle 2$
Reason: If an angle has a bisector, then it forms 2 congruent angles.



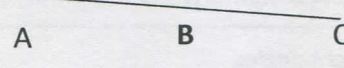
13. Given: $\overline{AB} \cong \overline{BC}$ Prove: B is midpoint of \overline{AC}

Reason: Def of mdpt or If 2 seg $R \cong \Rightarrow$ there is a mdpt.



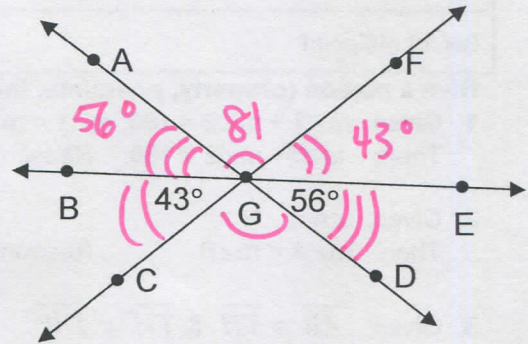
14. Given: B is midpoint of AC Prove: $\overline{AB} \cong \overline{BC}$

Reason: Def of mdpt



Use the figure at the right to answer #15 - 21.

- 15. $\angle FGA \cong$ $\angle DGC$ or $\angle CGD$
- 16. $\angle BGF$ and $\angle FGE$ are supplementary
- 17. $m\angle CGD =$ 81°
- 18. $m\angle AGF =$ 81°
- 19. $\angle EGC$ and $\angle FGF$ are supplementary
- 20. $m\angle AGB =$ 56°
- 21. $m\angle AGC =$ 99°



$$\begin{array}{r} 180 \\ - 43 \\ - 56 \\ \hline 81 \end{array}$$

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.

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1	2	3	4	5	6	7	8
Basic		Intermediate		Advanced		Solved ALL!	

