

3.4 Perpendicular Line Proofs DAY TWO CYU

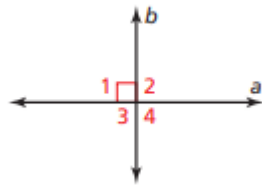
Use when you get it right all by yourself
S Use when you did it all by yourself, but made a silly mistake
H Use when you could do it alone with a little help from teacher or peer
G Use when you completed the problem in a group
X Use when a question was attempted but wrong (get help)
N Use when a question was not even attempted

CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
Perpendicular Lines/Rays/Segments		1, 2, 3	4, 5
Right angles		1, 2, 3	4, 5
Complementary angles		2, 3	4, 5
Angle Add. Postulate		3	4, 5
Parallel Lines			4
Linear Pair/Vertical Angles		1	4, 5
Congruent Angles			4, 5
Line Perpendicular Theorem			4, 5
Perpendicular Transversal Theorem			4, 5
Lines Perpendicular to a Transversal Theorem			4, 5

1. If two intersecting lines are perpendicular, then they intersect to form four right angles.

Given $a \perp b$

Prove $\angle 1, \angle 2, \angle 3,$ and $\angle 4$ are right angles.



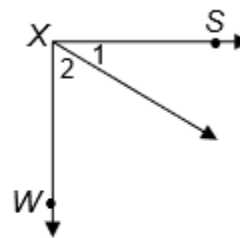
2. If two sides of two adjacent acute angles are perpendicular, then the angles are complementary.

Given $\overrightarrow{BA} \perp \overrightarrow{BC}$

Prove $\angle 1$ and $\angle 2$ are complementary.

3. Given: $\angle 1$ & $\angle 2$ are Complementary

Prove: $\overline{SX} \perp \overline{WX}$

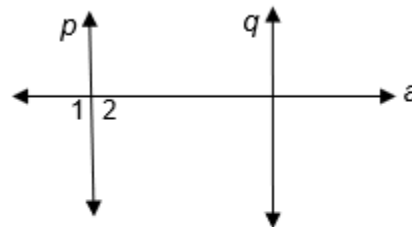


Statements	Reasons
1) $\angle 1$ & $\angle 2$ are Complementary	1)
2) $m\angle 1 + m\angle 2 = 90$	2)
3) $m\angle WXS = m\angle 1 + m\angle 2$	3)
4) $m\angle WXS = 90$	4)
5) $\angle WXS$ is right	5)
6) $\overline{SX} \perp \overline{WX}$	6)

4. Given: $\angle 1 \cong \angle 2$

$p \parallel q$

Prove: $q \perp a$



Statements	Reasons
1)	1)
2)	2)
3)	3)
4)	4)

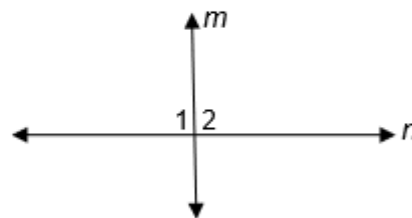
5. Prove the statement: If two coplanar lines are perpendicular, then they form a pair of congruent, supplementary angles.

First write the given(hypothesis) and the prove(conclusion) using the diagram.

Given: _____

Prove: _____ and _____

Statements	Reasons
1)	1)
2)	2)
3)	3)
4)	4)
5)	5)
6)	6)



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.

