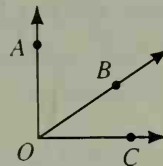


13. Copy and complete the proof of Theorem 2-6: If the exterior sides of two adjacent acute angles are perpendicular, then the angles are complementary.

Given: $\overrightarrow{OA} \perp \overrightarrow{OC}$

Prove: $\angle AOB$ and $\angle BOC$ are comp. \angle .

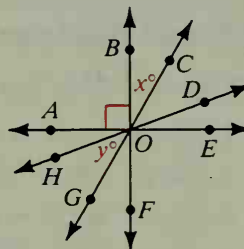


Proof:

Statements	Reasons
1. $\overrightarrow{OA} \perp \overrightarrow{OC}$	1. ?
2. $m\angle AOC = 90$	2. Def. of \perp lines
3. $m\angle AOB + m\angle BOC = m\angle AOC$	3. ?
4. ?	4. Substitution Prop.
5. ?	5. Def. of comp. \angle

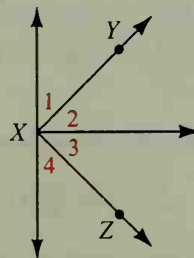
In the figure $\overleftrightarrow{BF} \perp \overleftrightarrow{AE}$, $m\angle BOC = x$, and $m\angle GOH = y$. Express the measure of the angle in terms of x , y , or both.

- B 14. $\angle COA$ *90 - x*
 15. $\angle COH$
 16. $\angle HOF$ *x + y*
 17. $\angle DOE$



Can you conclude from the information given for each exercise that $\overleftrightarrow{XY} \perp \overleftrightarrow{XZ}$?

18. $m\angle 1 = 46$ and $m\angle 4 = 44$
 19. $\angle 1$ and $\angle 3$ are complementary. *no*
 20. $\angle 2 \cong \angle 3$
 21. $m\angle 1 = m\angle 4$ *no*
 22. $\angle 1$ and $\angle 3$ are congruent and complementary.
 23. $m\angle 1 = m\angle 2$ and $m\angle 3 = m\angle 4$ *yes*
 24. $\angle 1 \cong \angle 3$ and $\angle 2 \cong \angle 4$
 25. $\angle 1 \cong \angle 4$ and $\angle 2 \cong \angle 3$ *no*



What can you conclude from the information given?

26. Given: \overrightarrow{AB} bisects $\angle DAC$;
 \overrightarrow{CB} bisects $\angle ECA$;
 $m\angle 2 = 45$;
 $m\angle 3 = 45$
 27. Given: $\overrightarrow{AD} \perp \overrightarrow{AC}$; $\overrightarrow{CE} \perp \overrightarrow{AC}$; $m\angle 1 = m\angle 4$

