

1. H:  $m\angle 1 = 120$ , C:  $\angle 1$  is obtuse    2. If  $\angle 1$  is obtuse, then  $m\angle 1 = 120$ .
3. Answers may vary; for example,  $m\angle 1 = 100$
4. An angle is a straight angle if and only if the measure of the angle is 180.
5. Substitution Prop.    6. Subtr. Prop. of =    7. Div. Prop. of =    8. Trans. Prop.
9. Def. of midpt.    10. Def. of  $\angle$  bisector    11.  $\angle$  Bis. Thm.    12. 32; 32; 122
13.  $\angle BOA$  or  $\angle DOE$
14.  $180 - x = 4(90 - x)$ ;  $180 - x = 360 - 4x$ ;  $3x = 180$ ;  $x = 60$
15. Def. of  $\perp$  lines    16. Def. of  $\perp$  lines
17. If 2 lines are  $\perp$ , then they form  $\cong$  adj.  $\triangle$ .
18. If the ext. sides of 2 adj. acute  $\triangle$  are  $\perp$ , then the  $\triangle$  are comp.
19. Show that  $\angle 3$  and  $\angle 4$  are supps. of  $\cong \triangle$ .

20. Statements	Reasons
1. $\angle 3$ is a supplement of $\angle 1$ ; $\angle 4$ is a supplement of $\angle 2$ .	1. Given
2. $\angle 1 \cong \angle 2$	2. Vert. $\triangle$ are $\cong$ .
3. $\angle 3 \cong \angle 4$	3. If 2 $\triangle$ are supps. of $\cong \triangle$ , then the 2 $\triangle$ are $\cong$ .