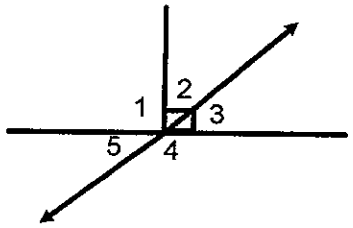
Name: _____ Date: _____ Period: _____

Geometry Section 3.2--Properties and Conclusions from markings

1. What can you conclude from the information in the diagram? Circle yes or no then give a reason.




yes or no A. ∠2 and ∠3 are complementary Reason: _____

yes or no B. m∠2 + m∠3 = 90° Reason: _____

yes or no C. ∠4 and ∠5 are supplementary Reason: _____

yes or no D. m∠4 + m∠5 = 180° Reason: _____

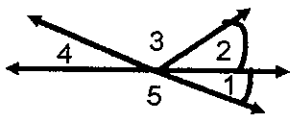
yes or no E. ∠3 and ∠4 are supplementary Reason: _____

yes or no F. m∠3 + m∠4 = 180° Reason: _____

yes or no G. ∠3 and ∠5 are vertical angles Reason: _____

yes or no H. m∠3 = m∠5 Reason: _____

2. What can you conclude from the information in the diagram? Circle yes or no then give a reason.




yes or no A. ∠1 ≅ ∠2 Reason: _____

yes or no B. m∠1 = m∠2° Reason: _____

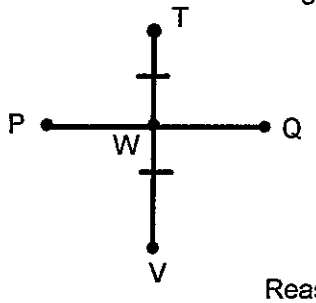
yes or no C. ∠2 and ∠3 are adjacent angles Reason: _____

**yes or no D. ∠4 and ∠5 are supplementary** Reason: _____

**yes or no E. m∠4 + m∠5 = 180°** Reason: _____

**yes or no F. ∠1 and ∠4 are vertical angles** Reason: _____

3. What can you conclude from the information in the diagram? Circle yes or no then give a reason.




yes or no A. $\overline{TW} \cong \overline{WV}$ Reason: _____

yes or no B. $\overline{PW} \cong \overline{WQ}$ Reason: _____

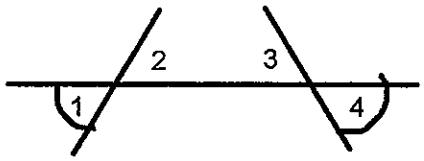
yes or no C. $\overline{TV} \perp \overline{PQ}$ Reason: _____

yes or no D. $\overline{PQ}$ bisects $\overline{TV}$ Reason: _____

yes or no E. W is the midpoint of $\overline{TV}$ Reason: _____

yes or no F. TW = WT Reason: _____

4. List four statements you can conclude from the diagram below.




A. _____ Reason: _____

B. _____ Reason: _____

C. _____ Reason: _____

D. _____ Reason: _____

Name the property that justifies each statement. Choose from reflexive, transitive or symmetric properties.

5. $\angle Z \cong \angle Z$

6. If $\angle 1 \cong \angle 2$ and $\angle 2 \cong \angle 3$, then $\angle 1 \cong \angle 3$

7. If AB = YU then YU = AB

8. If $\angle XYZ \cong \angle AOB$ and $\angle AOB \cong \angle WYT$, then $\angle XYZ \cong \angle WYT$

9. XY = YX

10. If $\angle H \cong \angle K$, then $\angle K \cong \angle H$

11. $\overline{LR} \cong \overline{RL}$

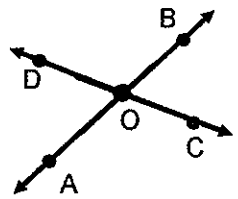
12. $\angle CBA \cong \angle ABC$

13. If you are younger than Mrs. Lutz and Mrs. Lutz is younger than Mrs. Sant, then you are younger than Mrs. Sant.

14. If x = 5 and 5 = y, then x = y.

Find two pairs of congruent angles in each figure. Justify your answer by giving a reason.

15.



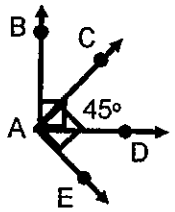

_____ and _____

Reason: _____

_____ and _____

Reason: _____

16.



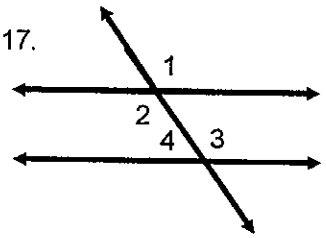

_____ and _____

Reason: _____

_____ and _____

Reason: _____

17.




_____ and _____

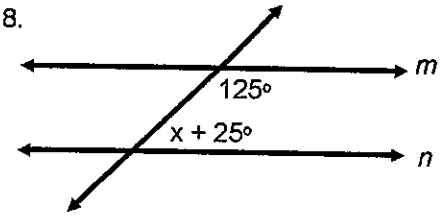
Reason: _____

_____ and _____

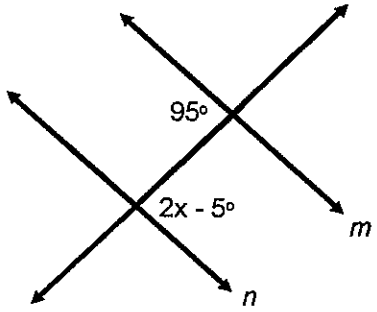
Reason: _____

Determine the value of x for which $m \parallel n$. Write an equation and solve. Show your work.

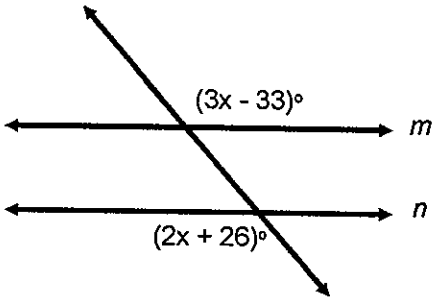
18.




19.




20.




21.