Name_____ Date _____ Period ____

DIRECTIONS: For #1-15, make each of the following statements **TRUE** by completing them with *ALWAYS*, *SOMETIMES*, or *NEVER*. Write the entire words in the blanks.

1. Vertical angles are _____ congruent.

2. Vertical angles are _____ complementary angles.

3. Two points _____ lie in exactly one plane.

4. Three points are _____ coplanar.

5. Complementary angles are _____ congruent.

6. Complementary angles are _____ acute angles.

7. A line segment _____ has a midpoint.

8. Two lines _____ intersect in exactly one point.

9. Three points _____ lie in exactly one plane.

10. Two planes _____ intersect in exactly one line.

11. Two intersecting lines are _____ contained in exactly one plane.

12. If P and Q are in a plane, then $\overleftrightarrow{PQ}$ is _____ in that plane.

13. Two points _____ lie in exactly one line.

14. Three points _____ lie in exactly one line.

15. A line and a point not on that line _____ lie in more than one plane.

DIRECTIONS: For #16-19, answer the questions and show work.

16. ∡1 and ∡2 are complementary.   What is x? $x =$ _____
$m∡1 = 3x + 11$ and $m∡2 = 4x - 5$. $m∡1$? $m∡1 =$ _____

        $m∡2$? $m∡2 =$ _____

17. ∡3 and ∡4 are supplementary.   What is x? $x =$ _____
$m∡3 = 5x - 6$ and $m∡4 = 8x + 4$. $m∡3$? $m∡3 =$ _____

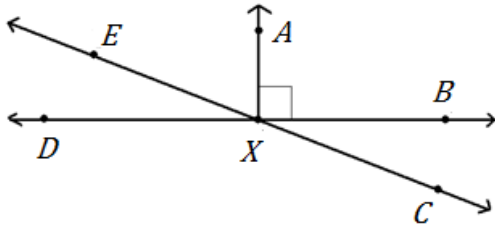 $m∡4$? $m∡4 =$ _____

18. The measure of an angle is two times as large as its complement. What are the measures of **both** angles?

_____ & _____

19. The measure of an angle is one-fifth as large as its supplement. What are the measures of **both** angles?

_____ & _____

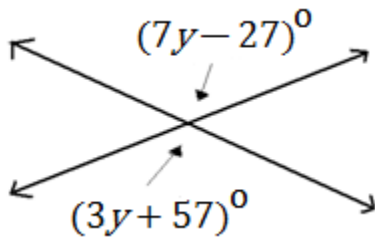DIRECTIONS: For #20-23, use the following diagram and given information.

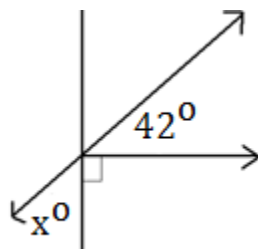**GIVEN:** $\angle AXB$ is a right angle.

20. Name another right angle.   _____

21. Name two complementary angles.   _____ & _____

22. Name two supplementary angles.   _____ & _____

23. Name two vertical angles.   _____ & _____

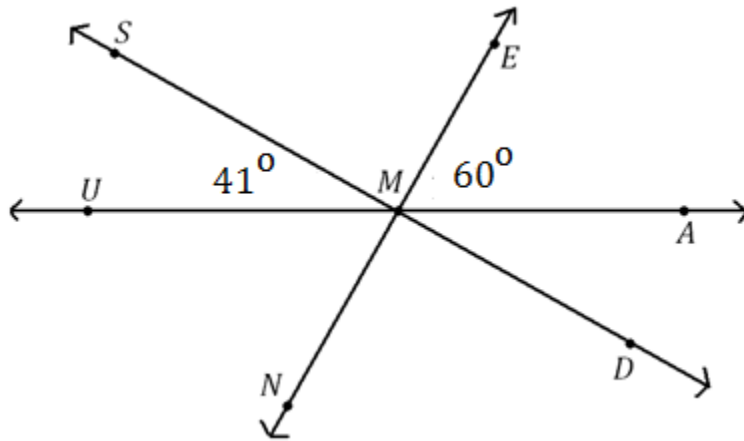DIRECTIONS: For #24-25, solve for the variable. Show work on #24.

24. Solve for y. $y =$ _____

$(7y - 27)^{\circ}$

$(3y + 57)^{\circ}$

25. Solve for x. $x =$ _____

42°

x°

<u>DIRECTIONS</u>: For #26-29, use the following diagram to complete the statements.

26. $m\sphericalangle NMU =$ _____   **28.** $m\sphericalangle SMA =$ _____

27. $m\sphericalangle NMD =$ _____   **29.** $m\sphericalangle EMD =$ _____

<u>DIRECTIONS</u>: For #30, use the given information to solve the problem. Show work. Write your answer in the provided blank.

30. The measure of the supplement of an angle is 10 less than six times the measure of the complement of the same angle. Find the measure of the angle.

_____