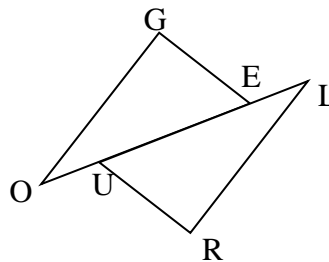## Chapter 5 TEST REVIEW

I. Two-Column Proofs: Statements and Reasons all numbers. Correct notation too.

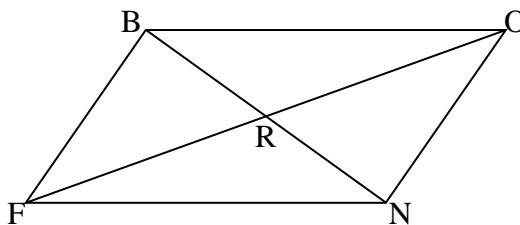1. Given: $\overline{OG}\perp\overline{GE}$; $\overline{UR}\perp\overline{RL}$; $\overline{GE}\cong\overline{RU}$; $\overline{OE}\cong\overline{LU}$
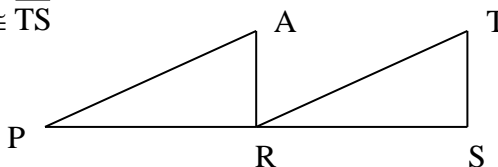
    Prove: $\overline{OG}\cong\overline{RL}$

2. Given: $\overline{BF}\cong\overline{ON}$; $\overline{BF}\,/\!/\,\overline{ON}$
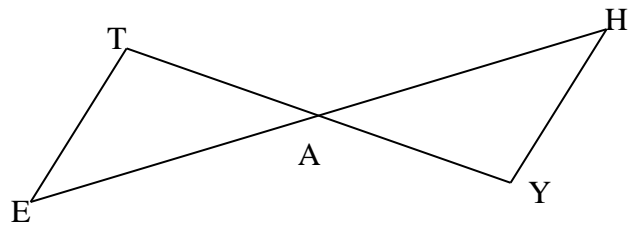
    Prove: $\angle BOR\cong\angle NFR$

3. Given: $\overline{AR}\perp\overline{RP}$; $\overline{TS}\perp\overline{SR}$; R is the midpoint of $\overline{PS}$; $\overline{AR}\cong\overline{TS}$
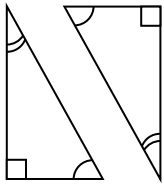
    Prove: $\overline{PA}\,/\!/\,\overline{RT}$

4. Given: $\overline{ET} \parallel \overline{HY}; \overline{ET} \cong \overline{HY}$
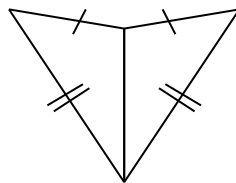   Prove: A is the midpoint of $\overline{TY}$

II. Name the theorem or postulate that justifies the following pairs of triangles are congruent. If there is not enough information, write none. Be sure to mark all missing information you used properly.
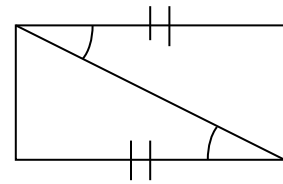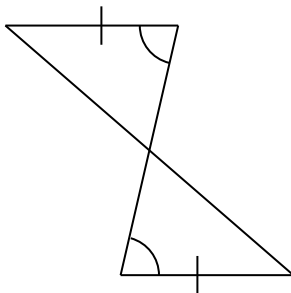
5. _____

6. _____

7. _____
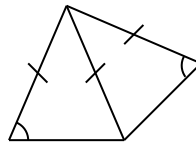
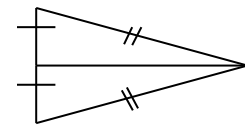8. _____

9. _____
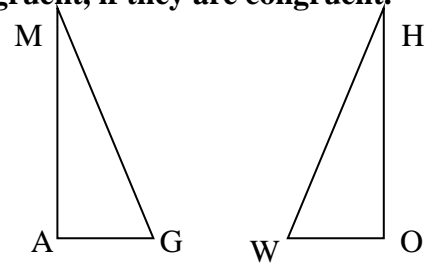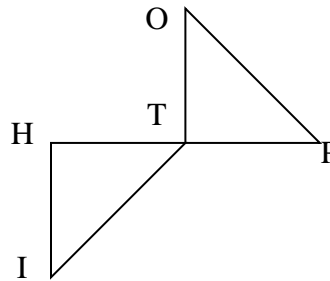
10. _____

III. Write the congruent statements and how the triangles are congruent, if they are congruent.

11. $\angle G \cong \angle W$, $\overline{MA} \cong \overline{HO}$, $\angle M \cong \angle H$

12. $\angle G \cong \angle W$, $\angle M \cong \angle H$, $\angle A \cong \angle O$

13. $\overline{MA} \cong \overline{HO}$, $\overline{GA} \cong \overline{WO}$, $\overline{GM} \cong \overline{WH}$

14. $\angle M \cong \angle H$, $\angle A \cong \angle O$, $\overline{MA} \cong \overline{HO}$

15. $\overline{GM} \cong \overline{WH}$, $\overline{MA} \perp \overline{AG}$, $\overline{MA} \cong \overline{HO}$, $\overline{HO} \perp \overline{WO}$

16. $\angle A \cong \angle O$, $\overline{MA} \cong \overline{HO}$, $\overline{GA} \cong \overline{WO}$

IV. Given that ΔHIT ≅ ΔTOP, write an equation and solve for x in each of the following. SHOW YOUR WORK!!

17. HT = 2x + 10, TP = 4x + 6, TO = 6x − 6

18. IT = 4x + 20, OT = 6x, IH = 2x + 44
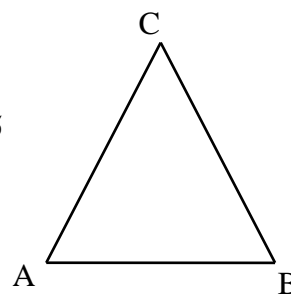
V. Short Answer.

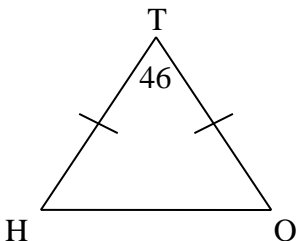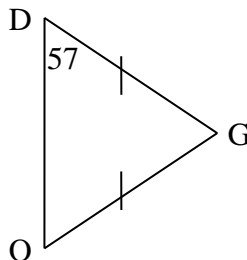19. m∠ A = m∠ B , AB = 5x + 9, BC = 3x + 15 and AC = 7x − 35

x = _____

AB = _____ Perimeter = _____

20. m∠ H = _____

21. m∠ G = _____

22. m∠ OLE = _____
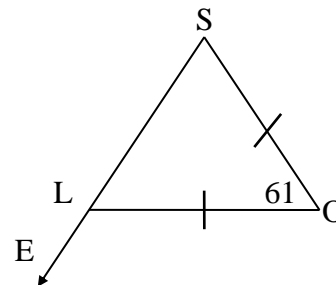
VI. Always (A), Sometimes (S) or Never (N):

23. _____ An equiangular triangle is isosceles, equilateral and acute.
24. _____ A scalene triangle is a right triangle.
25. _____ The sum of the measures of the exterior angles of a triangle is 360 degrees.
26. _____ An equilateral triangle is isosceles.
27. _____ An isosceles triangle is scalene.
28. _____ An equilateral triangle is a right triangle.
29. ____ CPCTC is used after triangles are congruent.
30. ____ CPCTC stands for corresponding parts of congruent triangles are corresponding.

31. Find the value(s) of x

$3x^2$

$-24x$

$120°$
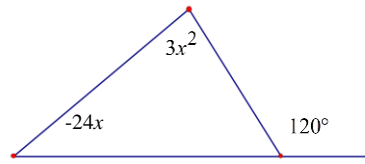
32. An equilateral triangle has an angle measure of $x^2 + 20$ and a side length of $2x^2$. Find the length of one side.

33. Given a rectangle with 3 of the 4 coordinates (0, 0) (a, 0) and (0, b).
 Draw a graph, label points, and show all work!!!!!
   a) Find the 4th coordinate

   b) Find the length of the diagonal

34. List and explain all the ways to prove triangles congruent as well as all the ways that DO NOT work.