Geometry Name_____
Chapter 3 Review Worksheet Date_____Period_____

In problems 1-8, decide if each statement is Always true (A), Sometimes true (S) or Never true (N).

1. An acute triangle has only one acute angle. _____

2. If a triangle is scalene, then it is also an obtuse triangle. _____

3. The altitude of a triangle bisects the side to which it is drawn. _____

4. An altitude of a triangle connects to its opposite side at a point 'inside' the triangle. _____

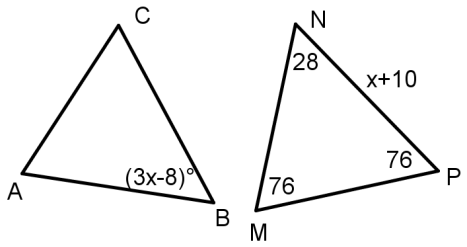
5. A median of a triangle connects to its opposite side at a point 'inside' the triangle. _____

6. If a triangle is isosceles, its base angles are congruent. _____

7. In a scalene triangle, the smallest angle is opposite the largest side. _____

8. The base of an isosceles triangle is drawn at the bottom of the diagram. _____

9. Given $\Delta ABC \cong \Delta MNP$

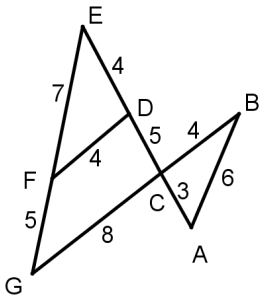


(a) Solve for x: _____

(b) Find NP: _____

(c) Are these triangles equilateral, isosceles, or scalene? _____

10. In the diagram on the right, find an isosceles triangle, and name the base angles of this triangle: _____



11. In the diagram on the right, if $\angle BAC \cong \angle EAD$ then what property justifies that $\angle BAD \cong \angle EAC$?

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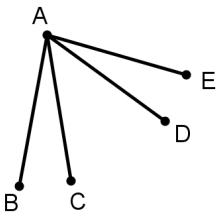

12. In a triangle, what name is given to a line segment drawn from a vertex to the opposite side if the line segment is perpendicular to the opposite side?

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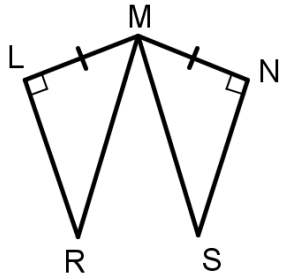
13. In the diagram, if $\overline{LM} \cong \overline{NM}$:



(a) In order to prove $\Delta MLR \cong \Delta MNS$ by SAS, what additional two sides must be congruent?

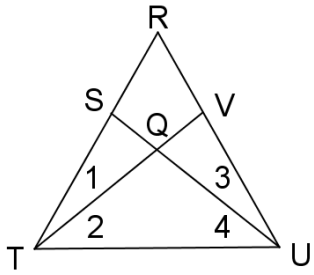
_____ and _____

(b) In order to prove $\Delta MLR \cong \Delta MNS$ by HL, what additional two sides must be congruent?

_____ and _____

14. Complete the proof: Given: $\angle 1 \cong \angle 3$
$\angle 2 \cong \angle 4$

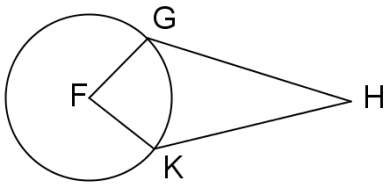
Prove: $\overline{ST} \cong \overline{VU}$



Statement	Reason
1. $\angle 1 \cong \angle 3$,	1.
2. $\angle 2 \cong \angle 4$	2.
3.	3.
4.	4.
5.	5. ASA
6. $\overline{ST} \cong \overline{VU}$	6. CPCTC

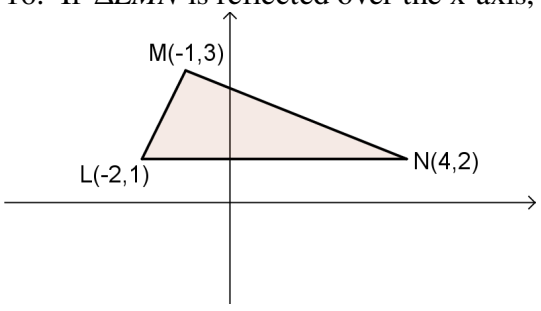
15. Complete the proof: Given: $\odot F$
$\overline{GH} \cong \overline{KH}$

Prove: $\angle FGH \cong \angle FKH$



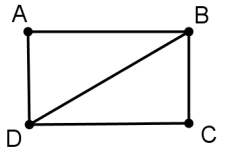
Statement	Reason
1. $\odot F$	1. Given
2. $\overline{GH} \cong \overline{KH}$	2. Given
3.	3.
4.	4.
5. $\Delta FGH \cong \Delta FKH$	5.
6. $\angle FGH \cong \angle FKH$	6.

16. If ΔLMN is reflected over the x-axis, write the coordinates of point M': _____



In problems 17-20, mark the diagrams with the given information, and then state the reason for the congruence (SSS, SAS, ASA or HL).

17. $\overline{AB} \cong \overline{CD}$, $\overline{BC} \cong \overline{DA}$



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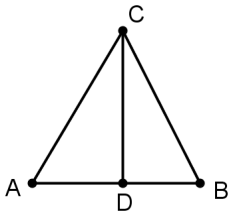
18. $\angle ACD \cong \angle BCD$, $\angle CDA \cong \angle CDB$



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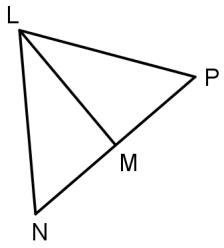
19. $\overline{LM}$ is a median and an altitude,



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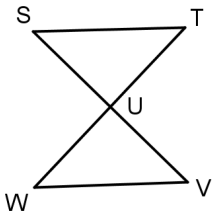
20. U is the midpoint of $\overline{SV}$ and $\overline{WT}$



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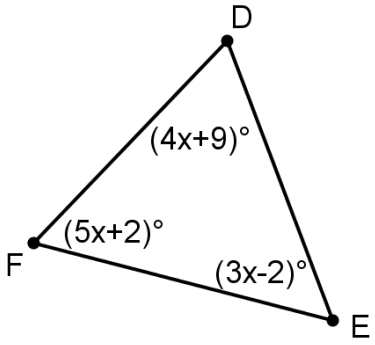
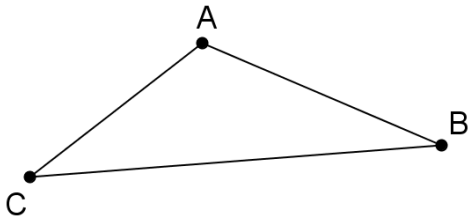
21. If $\overline{DE} \cong \overline{FE}$, find x: _____



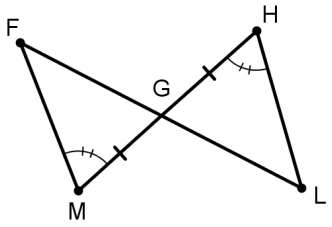
22. The perimeter of ΔABC is 110.
$AB = 2x + 4$, $BC = x - 4$ and $AC = 20$

(a) Find x: _____

(b) Is this triangle scalene, isosceles, or equilateral? _____



In problems 23-26, name the triangles that are congruent, and give the appropriate congruence theorem (SSS, SAS, ASA, or HL).

23. 

$\Delta FGM \cong$ _____

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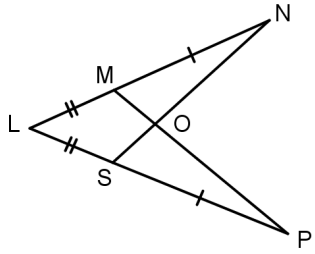
24. 

$\Delta LMP \cong$ _____

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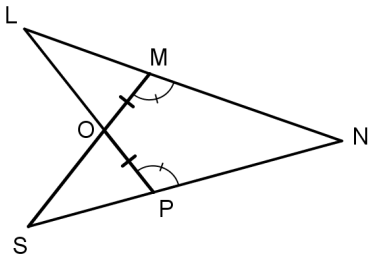
25. 

$\Delta LOM \cong$ _____

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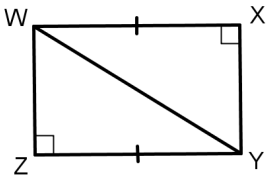
26. 

$\Delta WYZ \cong$ _____

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