Unit 8 Review

Name __KEY__

Part 1 Given $\triangle LEG \cong \triangle ARM$, answer the following questions:

1. If $LE \cong EG$ and $m \angle M$ is 43°, what is $m \angle R$?

$$m \angle R = 94°$$

2. If $LE = 12$ and $AM = 5$ and $m \angle A = 90°$, what is GR?

~~Given~~ $GL = 5$

3. If $GE = 3x - 7$ and $AM = 11x - 18$ and $MR = 2x + 2$, what is $\sqrt{AM}$?
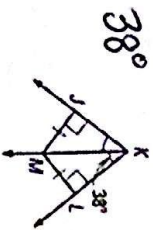
$x = 9$ $AM = 81$ $\boxed{\sqrt{AM} = 9}$

Part 2 State the postulate that could be used to prove the triangles congruent.

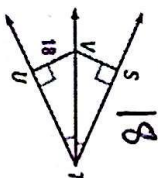| 4.	5.	6.
Not congruent	SAS ≅ postulate	HL ≅ postulate
7.	8.	9.
AAS	AAS	SAS
10.	11.	12.
SSS	SAS	AAS

Solve the following

14. Find $m\angle JKM$. $38°$

15. Find SV. 18
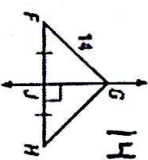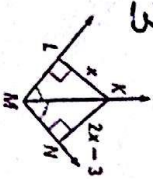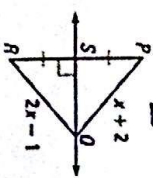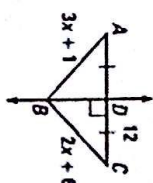
16. Find HG. 14

17. Find LK. 3

18. Find PQ. 5

19. Find AD and BC. $AD = 12$ $BC = 16$

Part 3 Definitions. Make sure you know the following:

- SSS Congruence Postulate
- SAS Congruence Postulate
- ASA Congruence Postulate
- AAS Congruence Theorem
- HL Congruence Theorem
- Isosceles Triangle Theorem
- Converse of Isosceles Triangle Theorem
- Perpendicular Bisector
- Angle Bisector
- Segment Bisector
- Reflexive Property of Congruence
- Transitive Property of Congruence
- Alternate Interior Angles Theorem
- Corresponding Angles Theorem
- SSS Similarity Theorem
- SAS Similarity Theorem
- Angle Angle Similarity Theorem

13. CPCTC – If two triangles are congruent, then their corresponding parts are ___congruent___

Part 4 Proofs

Given $\triangle GAB$ with $\overline{GS} \perp AB$, and $\overline{GA} \cong \overline{GB}$.

Prove $\overline{AS} \cong \overline{SB}$.

$\overline{GA} \cong \overline{GB}$ ——— Given

$\overline{GS} \cong \overline{GS}$ ——— reflexive property of congruence

$\overline{GS} \perp AB$ ——— Given

$\angle ASG$ and $\angle BSG$ are right angles ——— def $\perp$

$\triangle GAS$ and $\triangle BGS$ are right triangles ——— def right $\triangle$

$\triangle GAS \cong \triangle GBS$ ——— HL

$\overline{AS} \cong \overline{SB}$ ——— CPCTC