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Chapter 4 - Review

For #1-9, using a ruler, draw and accurately label an example of each of the following classifications of triangles. Include angles measures, side lengths and congruency marks.

1. Right Triangle

2. Isosceles Triangle

3. Equiangular Triangle

4. Obtuse Triangle

5. Scalene Triangle

6. Acute Triangle

7. Equilateral Triangle

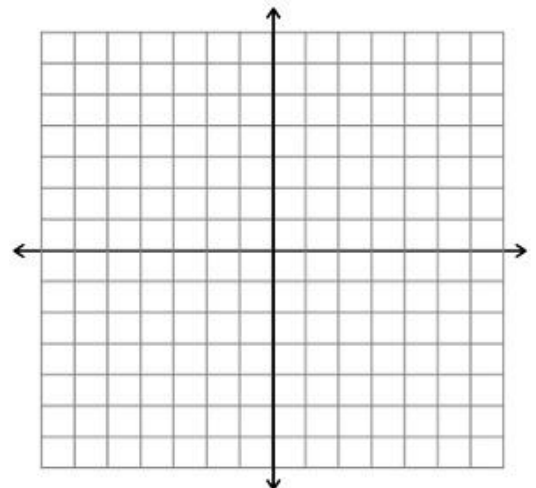
8. Right Isosceles Triangle

9. Obtuse Scalene Triangle

For # 10-11, find the measures of the sides of the triangles. Classify the triangles by their sides. Show all work.

10. $\triangle TWZ$ has vertices $T(2, 6)$, $W(4, -5)$ and $Z(-3, 0)$.

Classification: _____



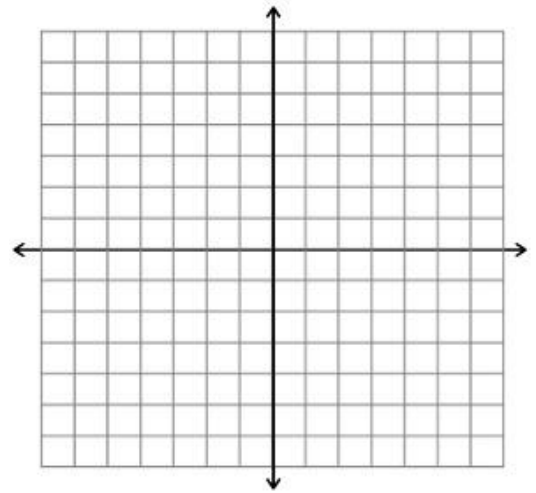
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11. $\triangle QRS$ has vertices $Q(2, 1)$, $R(4, -3)$ and $S(-3, -2)$.

Classification: _____



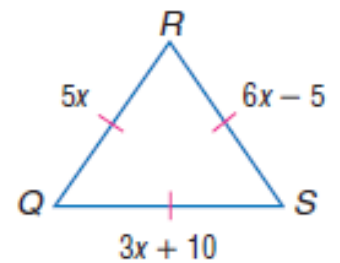
For #12-13, find x and the measure of each side of the triangle. Show all work.

12. $x =$ _____

$QR =$ _____

$RS =$ _____

$SQ =$ _____



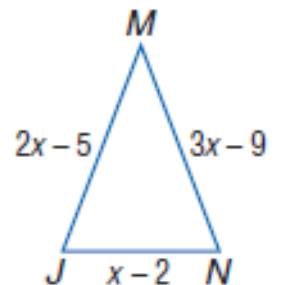
13. $\triangle JMN$ is an isosceles triangle with $\overline{JM} \cong \overline{MN}$

$x =$ _____

$JM =$ _____

$MN =$ _____

$JN =$ _____



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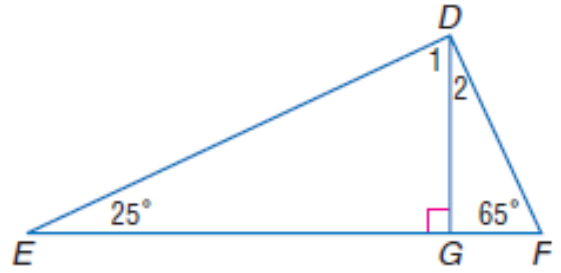
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14. Find each angle measure in $\triangle DEF$. Show all work.

$m\angle 1 =$ _____

$m\angle 2 =$ _____



15. Find each angle measure if $m\angle 4 = m\angle 5$

$m\angle 1 =$ _____

$m\angle 2 =$ _____

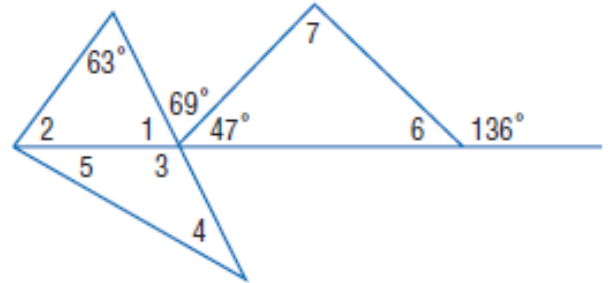
$m\angle 3 =$ _____

$m\angle 4 =$ _____

$m\angle 5 =$ _____

$m\angle 6 =$ _____

$m\angle 7 =$ _____



For # 16-19, identify the corresponding congruent angles and sides, then name the congruent triangles in each figure.

16. Angles: _____

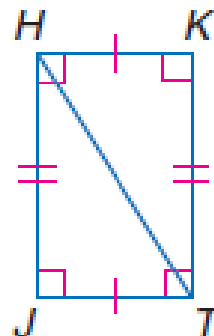
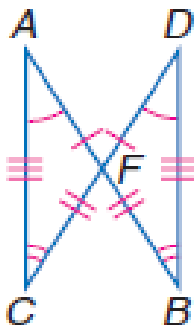
17. Angles: _____

Sides: _____

Sides: _____

Congruent Triangles: _____

Congruent Triangles: _____



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18. Angles: _____

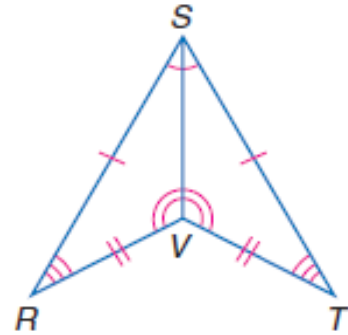
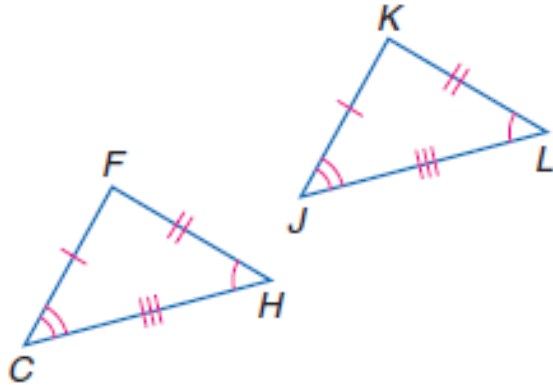
19. Angles: _____

Sides: _____

Sides: _____

Congruent Triangles: _____

Congruent Triangles: _____



20. $\triangle QRS \cong \triangle GHJ$, $RS = 12$, $QR = 10$, $QS = 6$, and $HJ = 2x-4$.

a) Draw and label a figure to show the congruent triangles

b) Find x

21. $\triangle JKL \cong \triangle DEF$, $m\angle J = 36$, $m\angle E = 64$, and $m\angle F = 3x+52$.

a) Draw and label a figure to show the congruent triangles

b) Find x

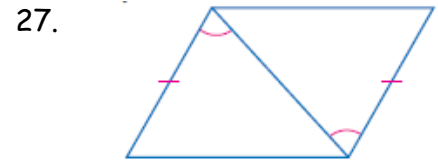
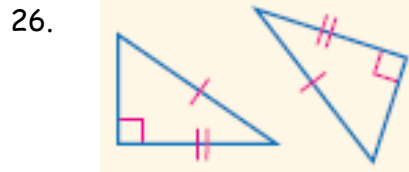
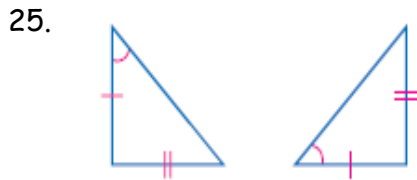
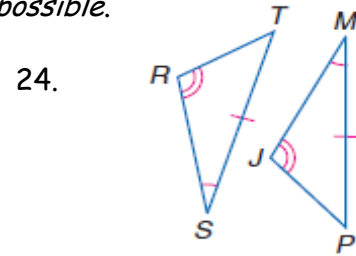
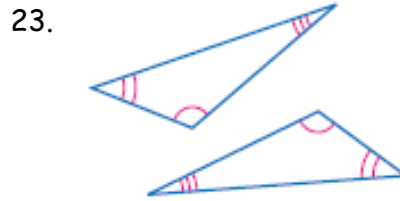
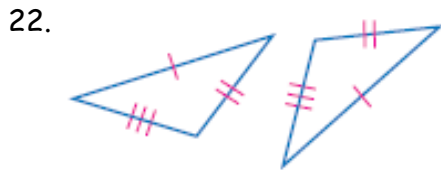
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For #22-27, determine which method can be used to prove that the triangles are congruent.

If it is not possible to prove the triangles are congruent, write *not possible*.



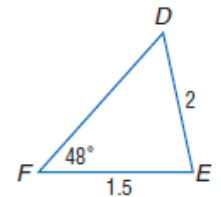
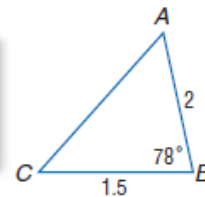
28. $\triangle QRS$ is an isosceles triangle with $\overline{QR} \cong \overline{RS}$. \overline{RT} bisects $\angle QRS$ and \overline{QS} . Draw and label the figure. Determine which method can be used to prove that $\triangle QRT \cong \triangle SRT$. If it is not possible to prove that they are congruent, write *not possible*.

29. Carmelita and Jonathan are trying to determine whether $\triangle ABC$ is congruent to $\triangle DEF$.

Who is correct and why?

Carmelita
 $\triangle ABC \cong \triangle DEF$
by SAS

Jonathan
Congruence
cannot be
determined.



30. What does CPCTC stand for? What is it used for?

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For #31-35, draw and label two triangles that can be proven to be congruent using the specified method.

31. SSS

32. ASA

33. SAS

34. AAS

35. HL

For #36-37, draw and label two triangles that are a counterexample showing why the specified method cannot be used to prove congruence in triangles.

36. AAA

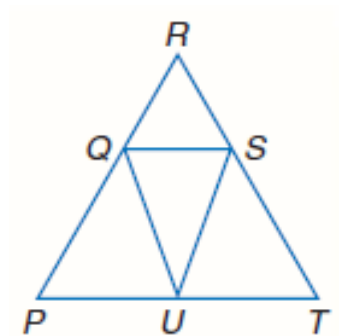
37. SSA

For #38-40, refer to the figure

38. If $\overline{PQ} \cong \overline{UQ}$ and $m\angle P = 32$, find $m\angle PUQ$

39. If $\overline{RQ} \cong \overline{RS}$ and $m\angle RQS = 75$, find $m\angle R$

40. If $\overline{RQ} \cong \overline{RS}$, $\overline{RP} \cong \overline{RT}$, and $m\angle RQS = 80$, find $m\angle P$



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41. Draw an isosceles triangle. Label the vertices A, B & C where $AB = BC$.

Using the triangle, do the following:

A. Mark all congruent sides and angles.

B. Draw angle bisector BD.

C. Mark all congruent sides and angles.

D. Is the statement $\triangle ABD \cong \triangle CBD$ true?

E. If $\triangle ABD \cong \triangle CBD$, which of the following can be used to prove the triangles are congruent? (may be more than one)

ASA AAS SSS AAA HL SSA SAS

42. Given: $\overline{AC} \parallel \overline{DF}$ and $\overline{BC} \cong \overline{DE}$

a) Mark all congruent sides and angles

b) Is $\triangle BCE \cong \triangle EDB$?

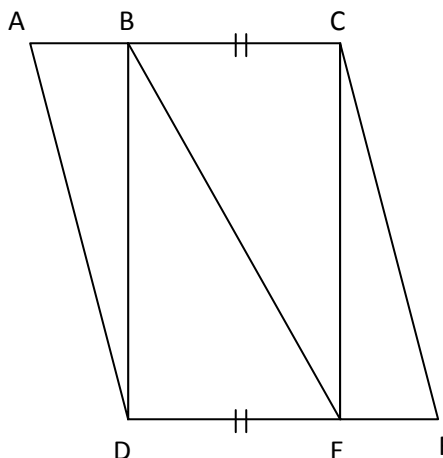
If so, by what postulate? (choose all that apply)

ASA AAS

SSS AAA

HL SSA

SAS



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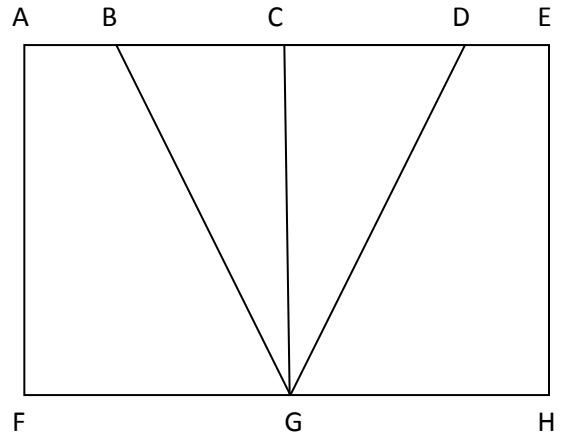
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43. Given: $\overline{GB} \cong \overline{GD}$, $\overline{AB} \cong \overline{DE}$ and \overline{CG} bisects \overline{AE}

a) Classify $\triangle BGD$ by its sides

b) Mark all congruent sides and angles

c) Is the statement $\triangle BGC \cong \triangle DGC$ true?



d) If $\triangle BGC \cong \triangle DGC$ by what postulate? (choose all that apply)

ASA AAS SSS AAA HL SSA SAS