Chapter 4

Triangles & Congruence

Geometry Prep

Name: _____

Period: ____

Teacher: _____

Geometry Prep
Westside High School
2nd Six weeks – all dates subject to change (28 days)
2014-2015

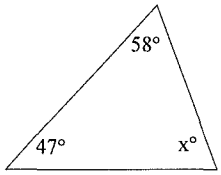
October 6 Test Corrections / 3 4 Slopes of Parallel and Perpendicular Lines	7 3 5. Write and Graph Equations of Lines	8 3 6 / Writing Point Point-Slope Equations	9 3 6 / Writing Point-Slope Equations	10 Writing Point- Slope Equations
13 Spiral/Review	14 **Test 4**	15 4 1 Triangle Sum / 4 7 Isosceles Tri Props	16 4 1 Triangle Sum / 4 7 Isosceles Tri Props	17 4 2 Triangle Congruence
20 4 3 - 4 6 Prove Triangles Congruent by SSS and SAS	21 **DISTRICT SNAPSHOT**	22 4 3 - 4 6 Prove Triangles Congruent by ASA / AAS	23 4 3 - 4 6 Prove Triangles Congruent by ASA / AAS	24 4 3 - 4 6 Prove Triangles Congruent by HL
27 Test Review	28 **Test 5**	29 5 2/5 3/5 4 Altitude, Median, Angle Bisector, and Perpendicular Bisector	30 5 2/5 3/5 4 Altitude, Median, Angle Bisector, and Perpendicular Bisector	31 5 1 Midsegment Theorem
November 3 5 5 Use Inequalities in a Triangle	4 Spiral Day	5 Review for Test 6	6 Review for Test 6	7 **Test 6**

4.1 Worksheet Triangle Sum and Exterior angle Theorem Name _____

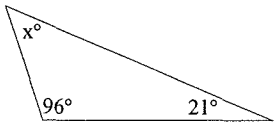
Period _____

I. Find the value of "x".

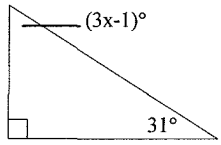
1) x = _____



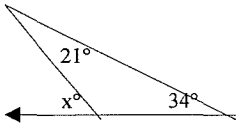
2) x = _____



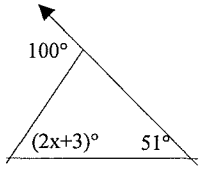
3) x =



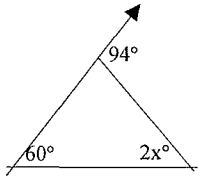
4) x = _____



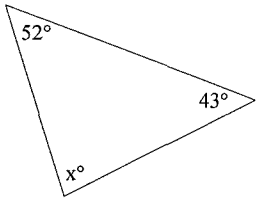
5) x = _____



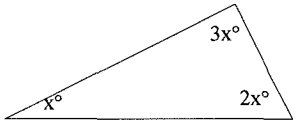
6) x =



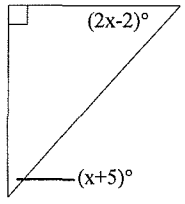
7) x = _____



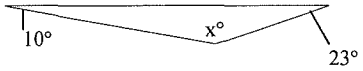
8) x = _____



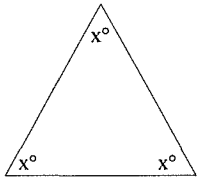
9) x =



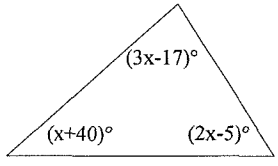
10) x = _____



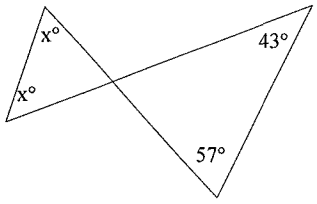
11) x = _____



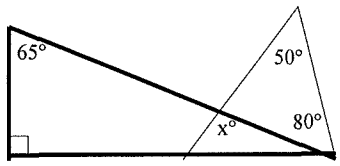
12) x =



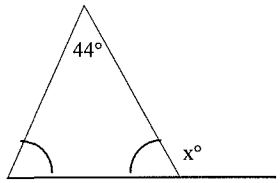
13) x = _____



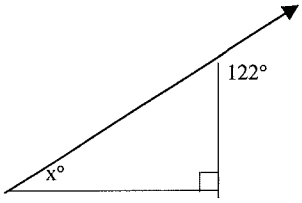
14) x = _____



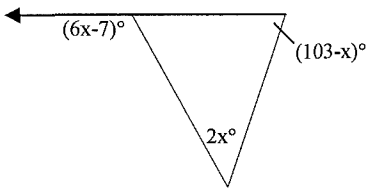
15) x =



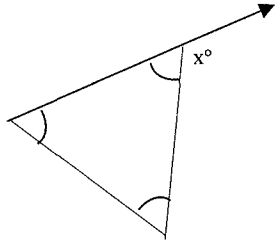
16) x = _____



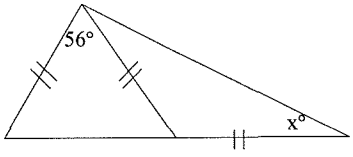
17) x = _____



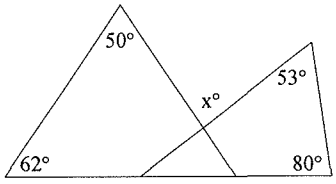
18) x =



19) x = _____



20) x = _____



II. Find the measure of each angle.

21) ∠1

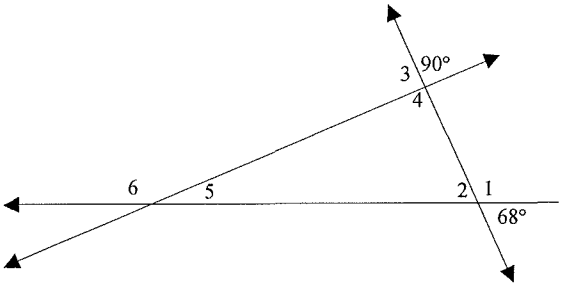
22) ∠2

23) ∠3

24) ∠4

25) ∠5

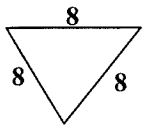
26) ∠6

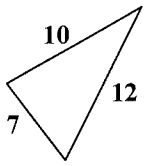


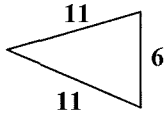
4.1 Worksheet Triangle Names

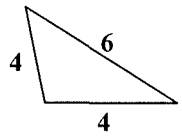
Good luck to: _____

I. Classify each triangle as equilateral, isosceles, or scalene.

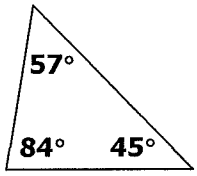
1. 

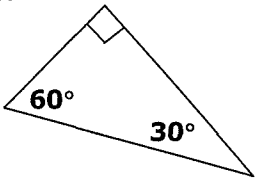
2. 

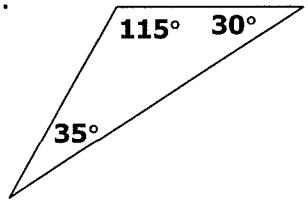
3. 

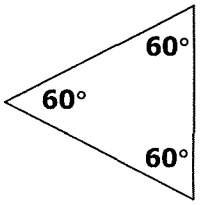
4. 

II. Classify each triangle as acute, obtuse, right, or equiangular.

5. 

6. 

7. 

8. 

III. Classify each triangle. (Draw a picture to help)

9. ΔABC with $\overline{AB} \cong \overline{BC}$.

10. ΔDEF with $m\angle E = 90°$.

11. ΔJKL with $\overline{JK} \cong \overline{KL} \cong \overline{LJ}$.

12. ΔMNP with $\overline{MN} \neq \overline{NP} \neq \overline{PM}$.

13. ΔQRS with $m\angle Q = 145°$, $m\angle R = 15°$, and $m\angle S = 20°$.

IV. Determine whether each statement is always, sometimes, or never true.

14. A right triangle is an isosceles triangle.

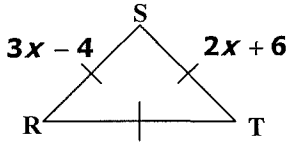
15. A right triangle is an acute triangle.

16. An equilateral triangle is an isosceles triangle.

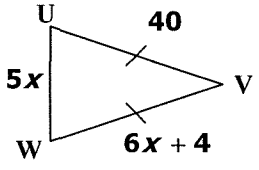
17. An isosceles triangle is an equilateral triangle.

18. A scalene triangle is an obtuse triangle.

V. Write and solve an equation to find each of the following.

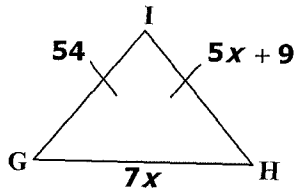
19. 

$\overline{RT}$ = _____

20. 

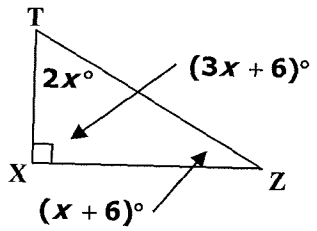
$\overline{UW}$ = _____

21.



$\overline{GH}$ = _____

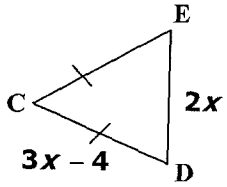
22.



$m\angle Z$ = _____

$m\angle T$ = _____

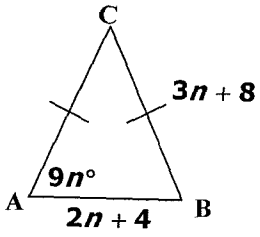
23. $\overline{CE} + \overline{ED} + \overline{DC} = 88$



$\overline{CE}$ = _____

$\overline{DE}$ = _____

24. perimeter = 84



$m\angle A$ = _____

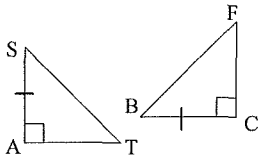
4.2 Worksheet Applying Congruence in Triangles

Name _____

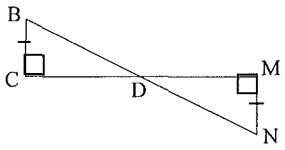
Period _____

I. Complete each correspondence statement.

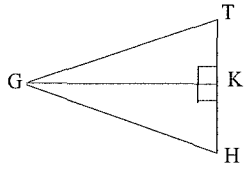
1) $\Delta SAT \cong \Delta$_____



2) $\Delta BCD \cong \Delta$_____

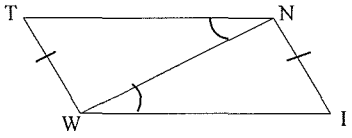


3) $\Delta GHK \cong \Delta$_____

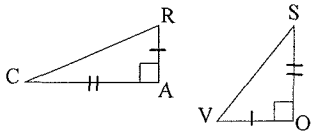


II. Write a congruence statement for each pair of congruent triangles.

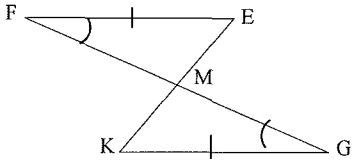
4) Δ_____ $\cong \Delta$_____



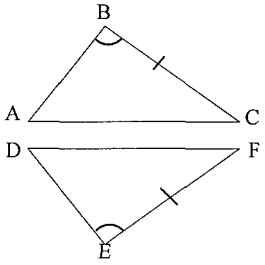
5) Δ_____ $\cong \Delta$_____



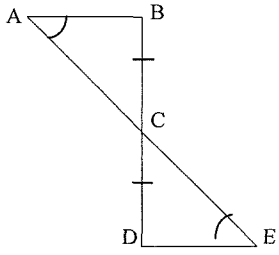
6) Δ_____ $\cong \Delta$_____



7) Δ_____ $\cong \Delta$_____



8) Δ_____ $\cong \Delta$_____



III. Draw ΔEDG and ΔQRS. Label the corresponding parts if $\Delta EDG \cong \Delta QRS$. Then complete each statement.

7) $\angle E \cong$_____ 8) $\overline{DG} \cong$_____ 9) $\angle EDG \cong$_____ 10) $\overline{GE} \cong$_____

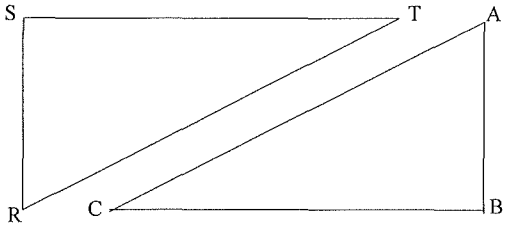
11) $\overline{ED} \cong$_____ 12) $\angle EGD \cong$_____

IV. Label the corresponding part if $\Delta RST \cong \Delta ABC$. Use the figures to complete each statement.

13) $\angle ACB \cong$_____ 14) $\angle TSR \cong$_____

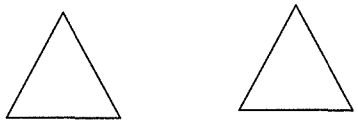
15) $\overline{AC} \cong$_____ 16) $\overline{ST} \cong$_____

17) $\overline{RS} \cong$_____ 18) $\angle CBA \cong$_____



V. Find the value of "x".

19) Given $\Delta ABC \cong \Delta DEF$, AB=15, BC=20, AC=25, and FE=3x-7



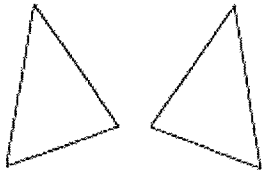
20) Given $\Delta ABC \cong \Delta DEF$, DE=10, EF=13, DF=16, and AC=4x-8

LESSON 4.2

Practice B

For use with pages 225–231

1. Copy the congruent triangles shown at the right. Then label the vertices of your triangles so that $\triangle AMT \cong \triangle CDN$. Identify all pairs of congruent corresponding angles and corresponding sides.



In the diagram, $\triangle TJM \cong \triangle PHS$. Complete the statement.

2. $\angle P \cong$?

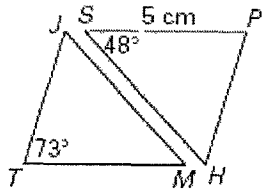
3. $\overline{JM} \cong$?

4. $m\angle M =$?

5. $m\angle P =$?

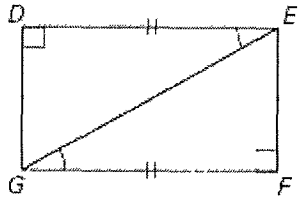
6. $MT =$?

7. $\triangle HPS \cong$?

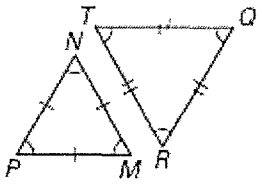


Write a congruence statement for any figures that can be proved congruent. *Explain* your reasoning.

8.



9.



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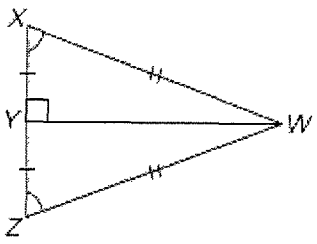
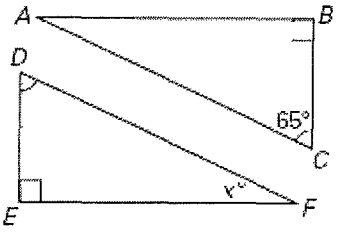
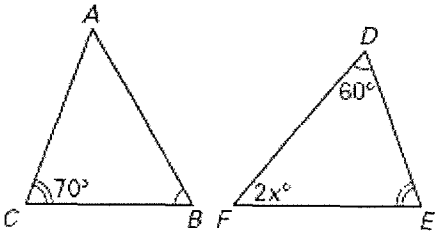


Find the value of *x*.

11.

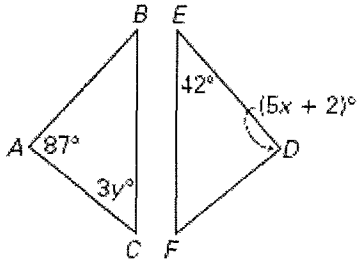


12.



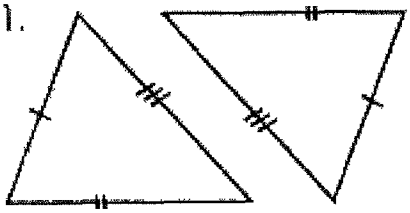
In Exercises 13 and 14, use the given information to find the indicated values.

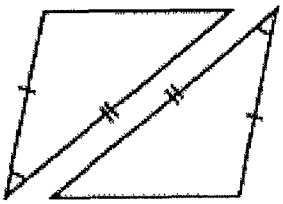
13. Given $\triangle ABC \cong \triangle DEF$, find the values of x and y.

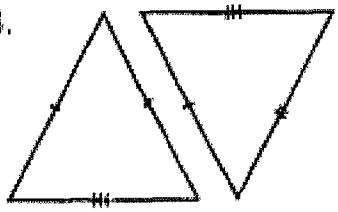


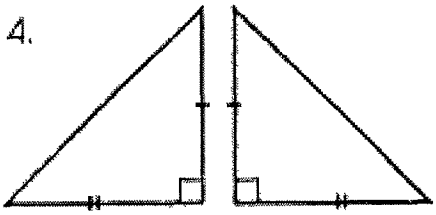
Congruent Triangles Worksheet #1 Name _____ Period _____

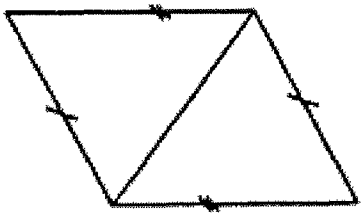
I. State whether these triangles are congruent by SSS, SAS, or none.

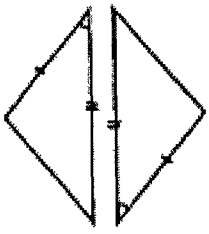
1. 

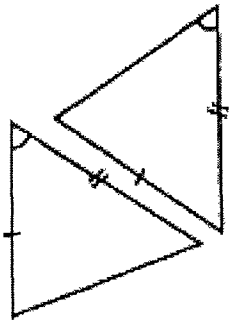
2. 

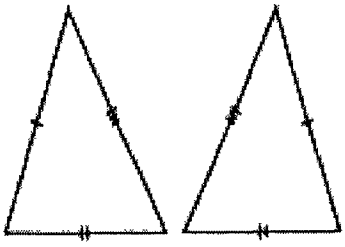
3. 

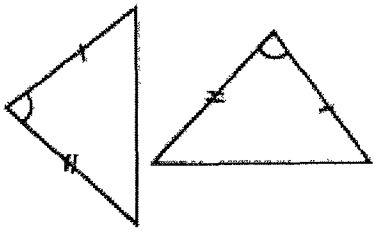
4. 

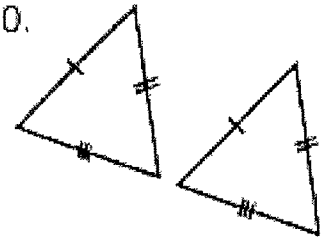
5. 

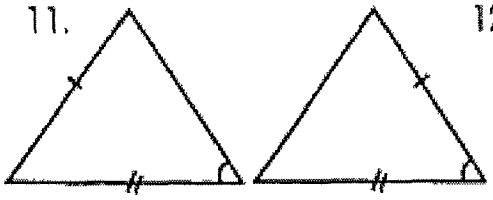
6. 

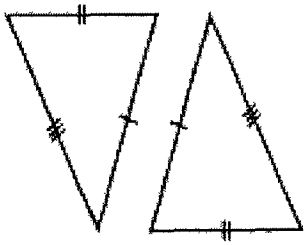
7. 

8. 

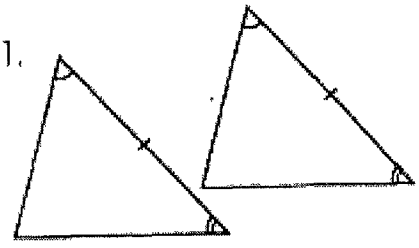
9. 

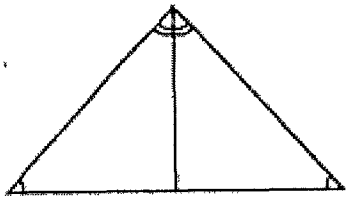
10. 

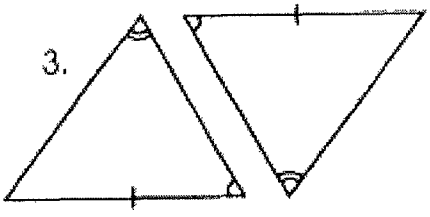
11. 

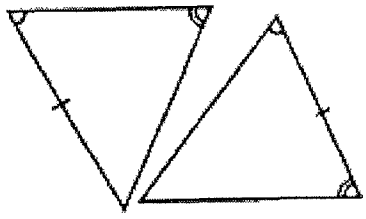
12. 

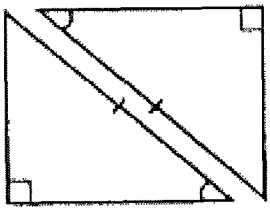
II. State whether these triangles are congruent by ASA, AAS, or none

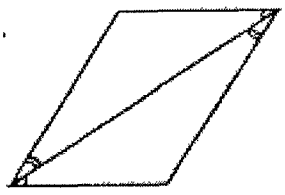
1. 

2. 

3. 

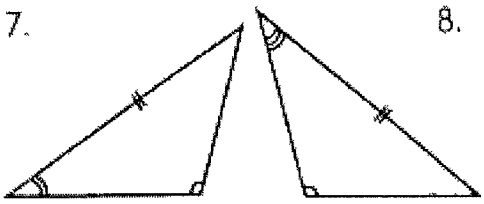
4. 

5. 

6. 

II. (Continued) State whether these triangles are congruent by ASA, AAS, or none.

7.



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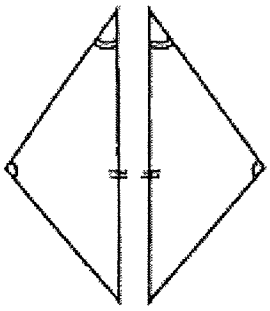

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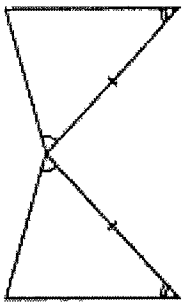

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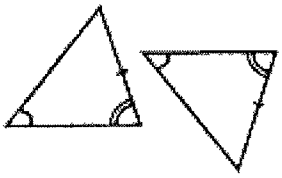

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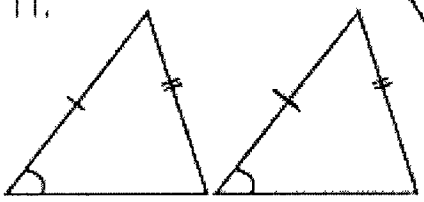

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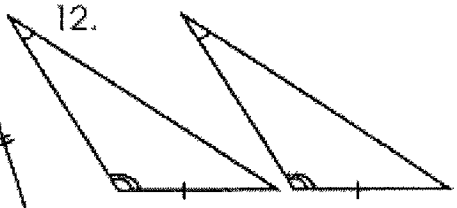
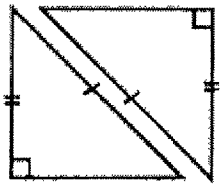
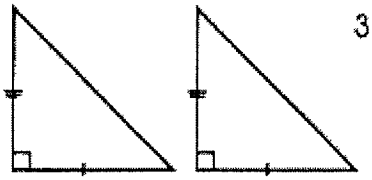


III. State whether these triangles are congruent by HL, if not write no.

1.



2.



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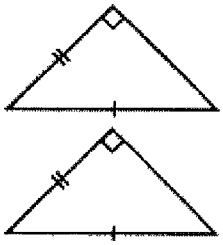

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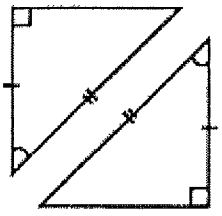

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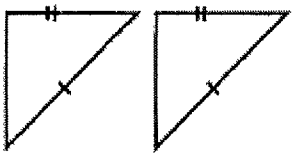

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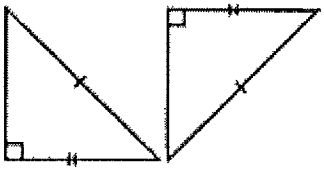

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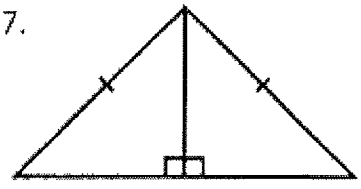

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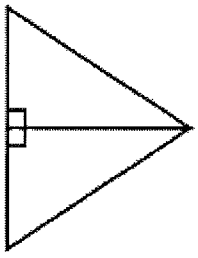

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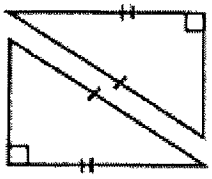

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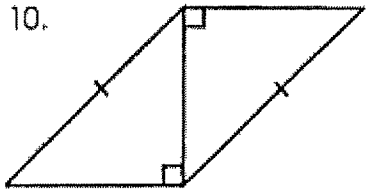

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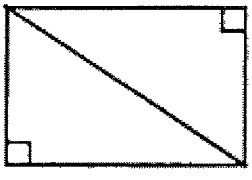

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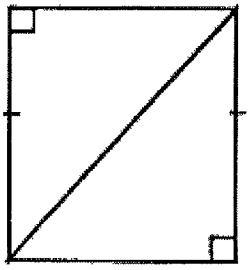
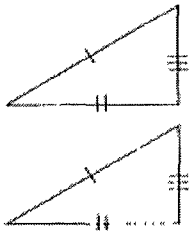


Congruent Triangles Worksheet #2

Name _____ Period _____

I State whether these triangles are congruent by SSS, SAS, or none

1.



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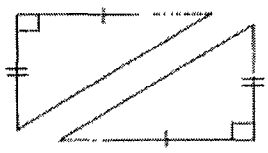

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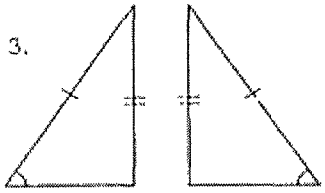

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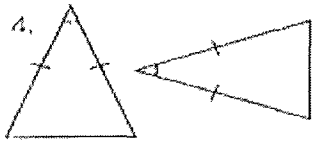

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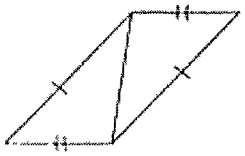

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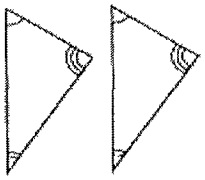

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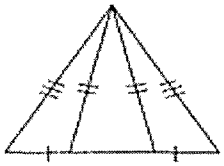
8.



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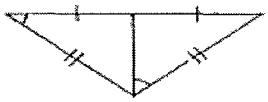

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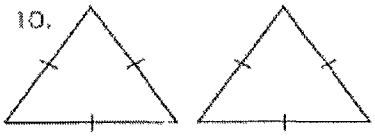
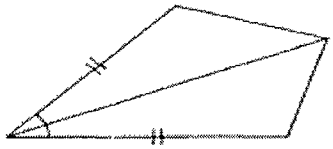


11



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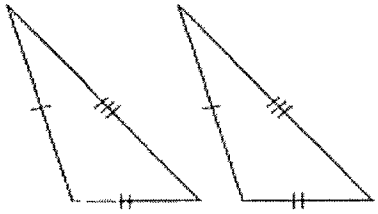
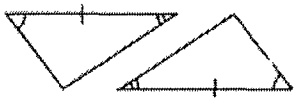


II State whether these triangles are congruent by ASA, AAS, HL, or none.

1.



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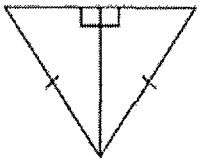
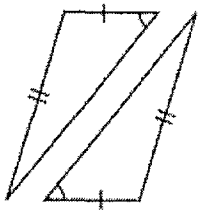
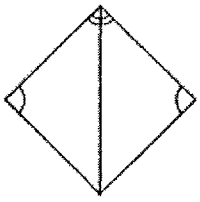


3.

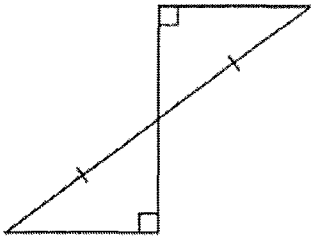


4.

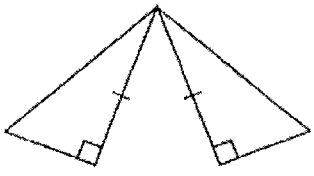


5.

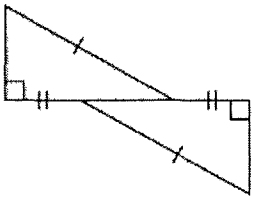
6.



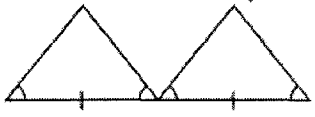
7.



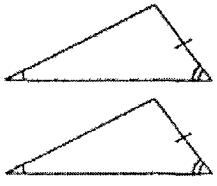
8.



9.



10.



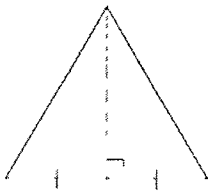
4.4/4.5 Congruent Triangles

Name _____

Decide if the triangles are congruent, if so then state the postulate or theorem that proves congruence.

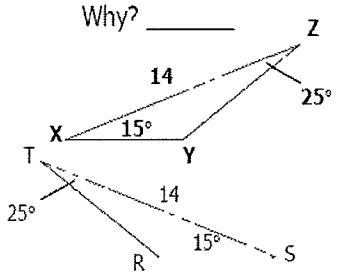
1) Congruent? YES / NO

Why? _____



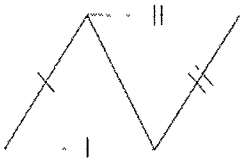
2) Congruent? YES / NO

Why? _____



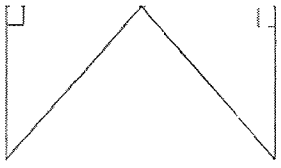
3) Congruent? YES / NO

Why? _____



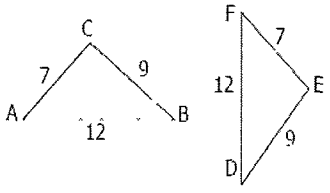
4) Congruent? YES / NO

Why? _____



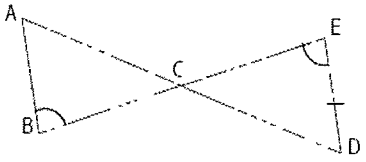
5) Congruent? YES / NO

Why? _____



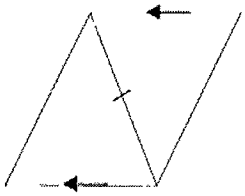
6) Congruent? YES / NO

Why? _____



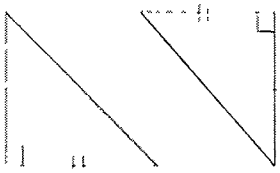
7) Congruent? YES / NO

Why? _____



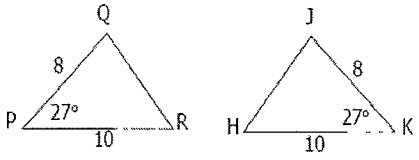
8) Congruent? YES / NO

Why? _____



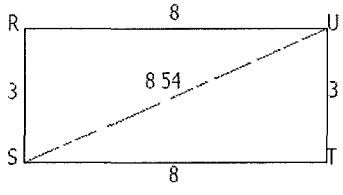
9) Congruent? YES / NO

Why? _____



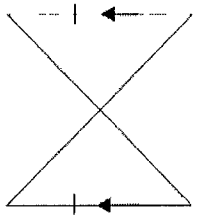
10) Congruent? YES / NO

Why? _____



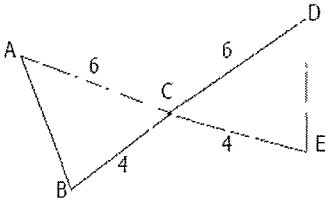
11) Congruent? YES / NO

Why? _____



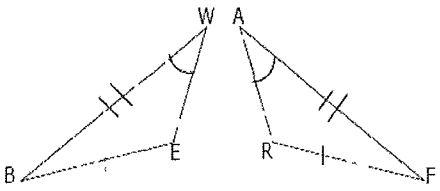
12) Congruent? YES / NO

Why? _____



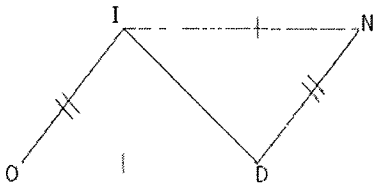
13) Congruent? YES / NO

Why? _____



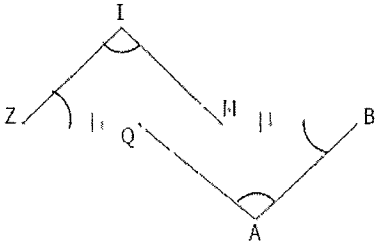
14) Congruent? YES / NO

Why? _____



15) Congruent? YES / NO

Why? _____



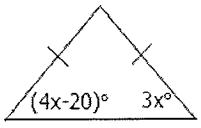
Worksheet Analyzing Isosceles Triangles

Name _____

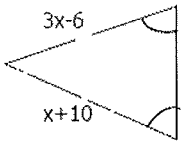
Period _____

I. Find the missing value.

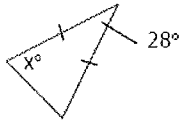
1) x = _____



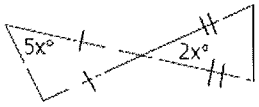
2) x = _____



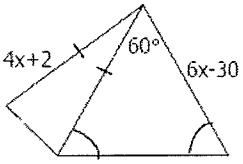
3) x = _____



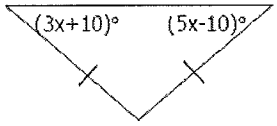
4) x = _____



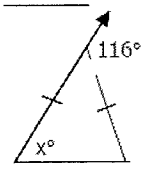
5) x = _____



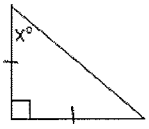
6) x = _____



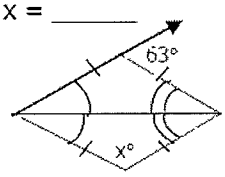
7) x = _____



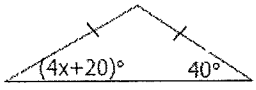
8) x = _____



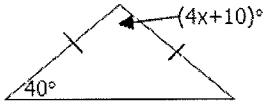
9) x = _____



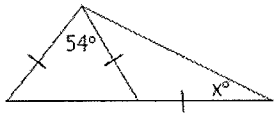
10) x = _____



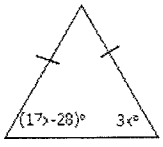
11) x = _____



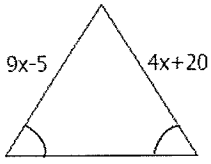
12) x = _____



13) x = _____



14) x = _____



15) x = _____