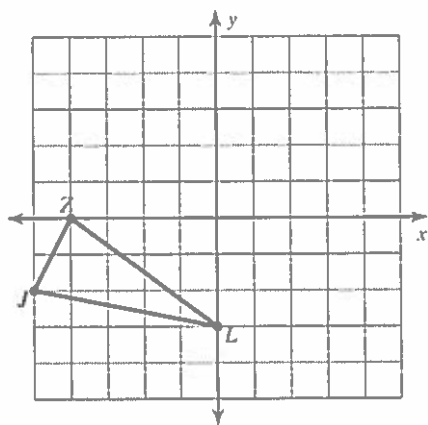


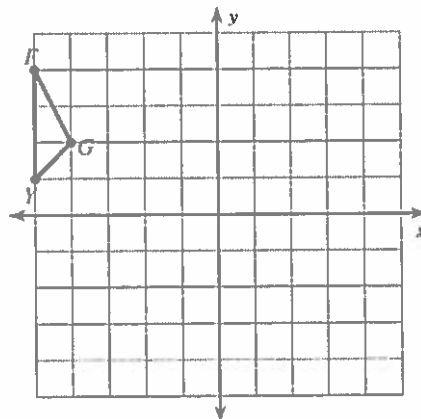
All Transformations

Graph the image of the figure using the transformation given.

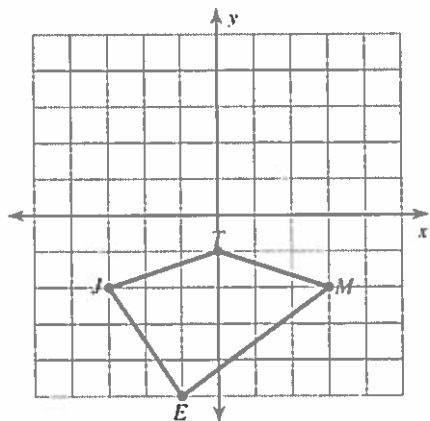
- 1) rotation 90° counterclockwise about the origin



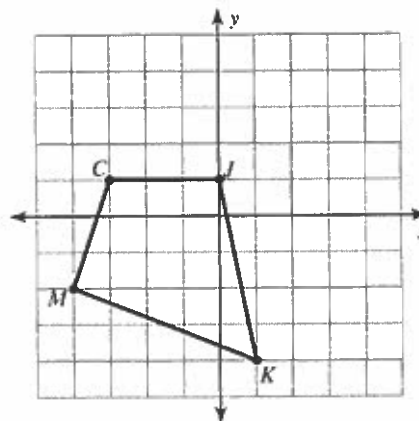
- 2) translation: 4 units right and 1 unit down



- 3) translation: 1 unit right and 1 unit up

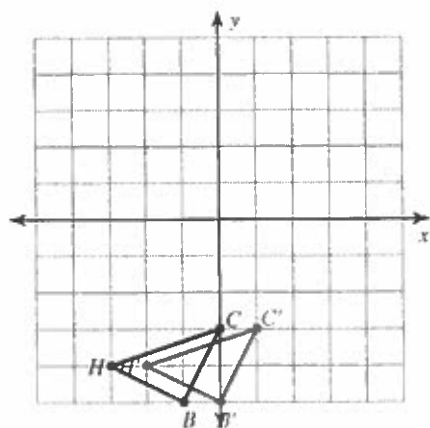


- 4) reflection across the x-axis

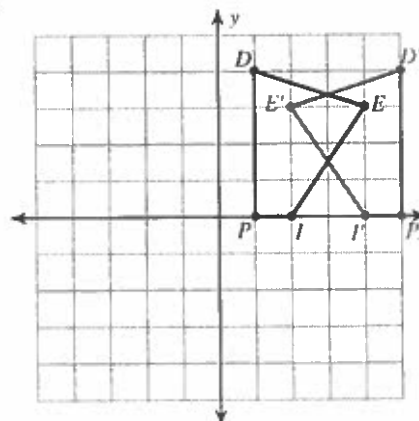


Write a rule to describe each transformation.

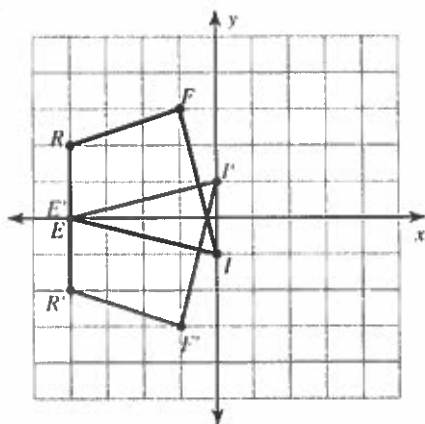
5)



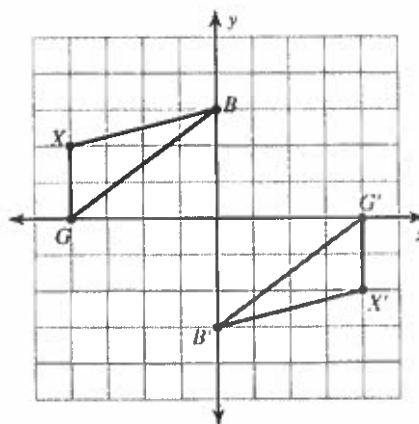
6)



7)



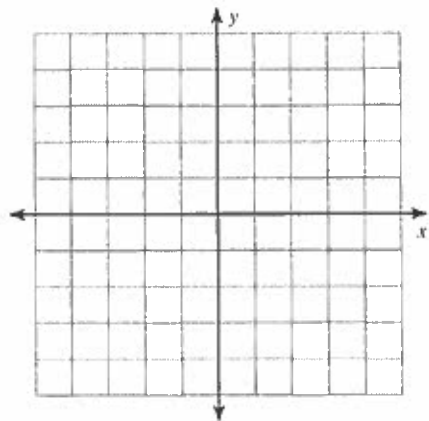
8)



Graph the image of the figure using the transformation given.

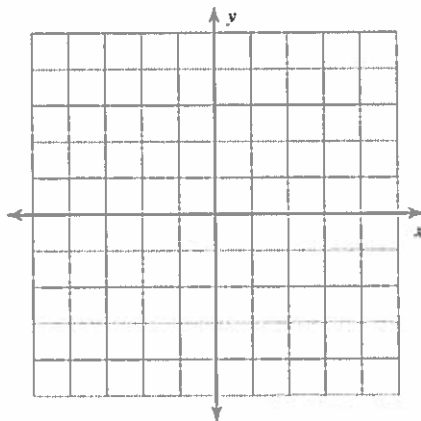
9) rotation 90° clockwise about the origin

$B(-2, 0)$, $C(-4, 3)$, $Z(-3, 4)$, $X(-1, 4)$



10) reflection across $y = x$

$K(-5, -2)$, $A(-4, 1)$, $I(0, -1)$, $J(-2, -4)$



Find the coordinates of the vertices of each figure after the given transformation.

11) rotation 180° about the origin

$E(2, -2)$, $J(1, 2)$, $R(3, 3)$, $S(5, 2)$

12) reflection across $y = 2$

$J(1, 3)$, $U(0, 5)$, $R(1, 5)$, $C(3, 2)$

13) translation: 7 units right and 1 unit down

$J(-3, 1)$, $F(-2, 3)$, $N(-2, 0)$

14) translation: 6 units right and 3 units down

$S(-3, 3)$, $C(-1, 4)$, $W(-2, -1)$

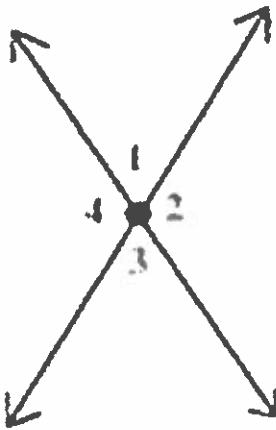
Name: _____

Date: _____

Vertical Angles Theorem

Theorem: _____

Prove it.

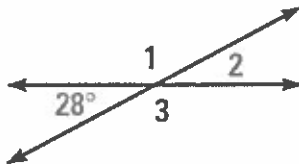


Statement (What I can say)	vs.	Reason (Why I can say it)
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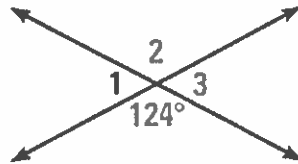


Use it!

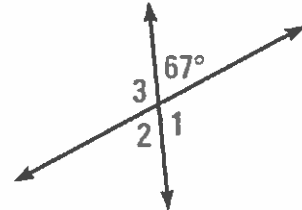
1.



2.

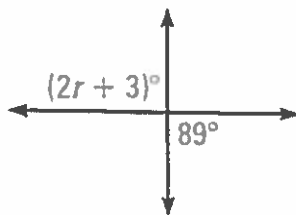


3.

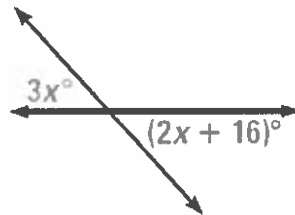


Find the value of the variable.

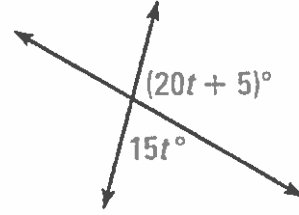
4.

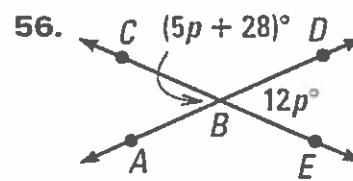
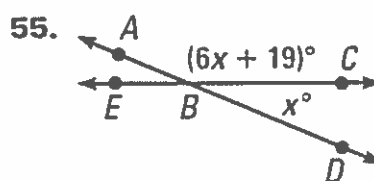
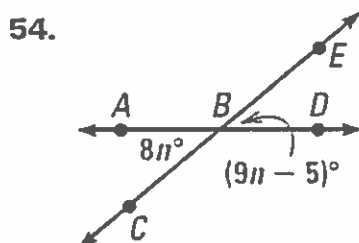
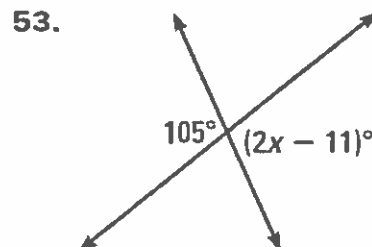
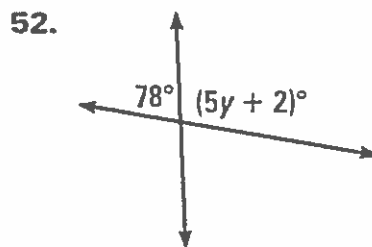
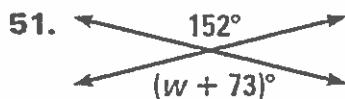
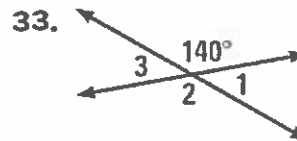
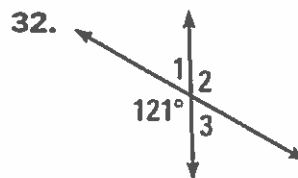
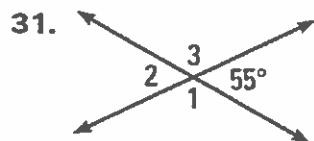
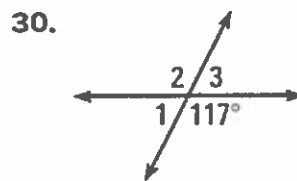
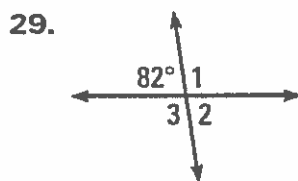
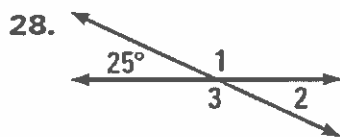


5.

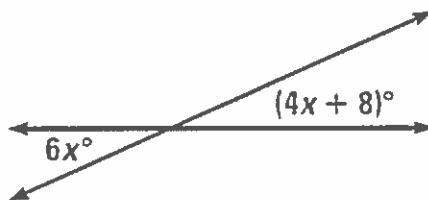


6.





Multi-Step Problem Use the diagram below.



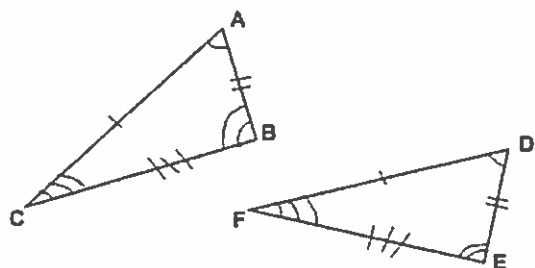
- Use the Vertical Angles Theorem to write an equation.
- Solve your equation to find the value of x .
- Find the measures of the acute angles formed by the lines.
- Find the measures of the obtuse angles formed by the lines.

Name: _____ Date: _____

CONGRUENT TRIANGLES NOTES

Two figures with the same size and shape are called _____. The symbol is _____.

$\triangle ABC \cong \triangle DEF$. Write the pairs of congruent angles and the pairs of congruent sides.



Sides

Angles

1.

4.

2.

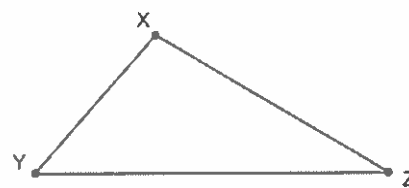
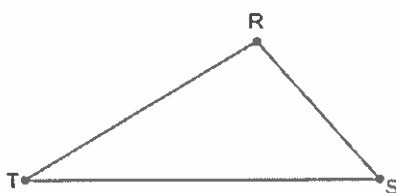
5.

3.

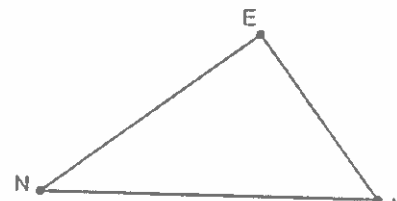
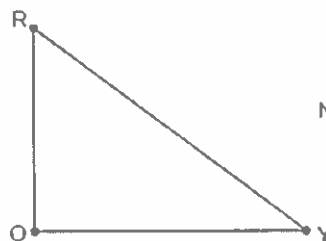
6.

If $\triangle RST \cong \triangle XYZ$, complete the statements below. Mark off the congruent parts using the appropriate notation.

1. $\angle R \cong ?$
2. $\overline{RS} \cong ?$
3. $\overline{YZ} \cong ?$
4. $\angle Y \cong ?$
5. $\angle T \cong ?$
6. $\overline{RT} \cong ?$
7. $\triangle STR \cong ?$
8. $\triangle ZYX \cong ?$

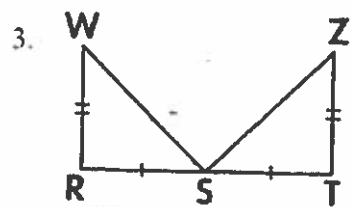
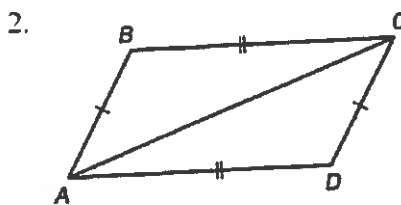
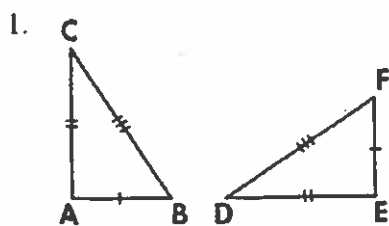


$\triangle ROY \cong \triangle JEN$, list the pairs of congruent corresponding parts and mark them in the figure.



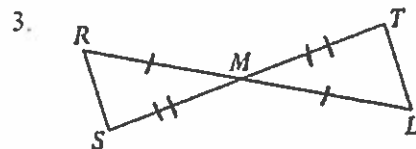
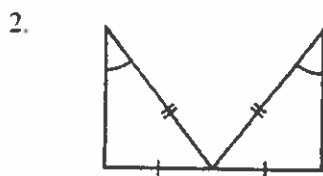
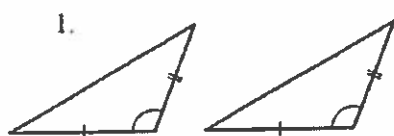
SSS- means you need what? _____

Are the triangles congruent by SSS? If not, what additional information is needed for SSS



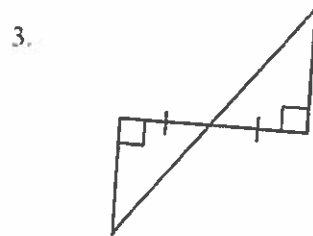
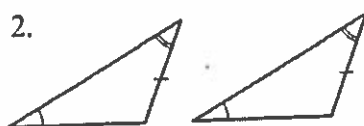
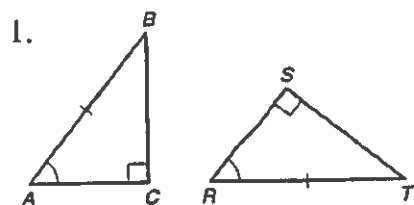
SAS- means you need what? _____

Are the triangles congruent by SAS? If not, what additional information is needed for SAS?



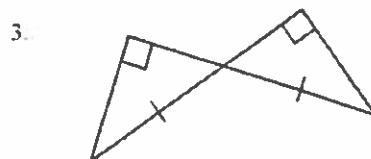
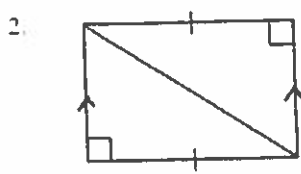
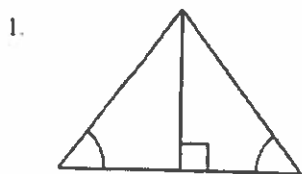
ASA- means you need what? _____

Are the triangles congruent by ASA? If not, what additional information is needed for ASA?



AAS- means you need what? _____

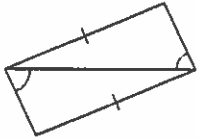
Are the triangles congruent by AAS? If not, what additional information is needed for AAS?



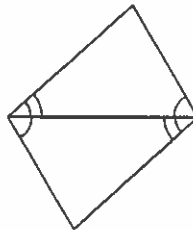
SSS, SAS, ASA, and AAS Congruence

State if the two triangles are congruent. If they are, state how you know.

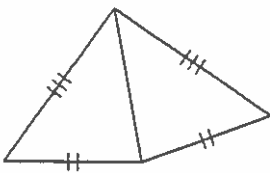
1)



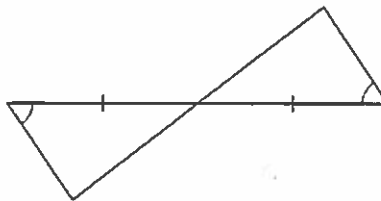
2)



3)

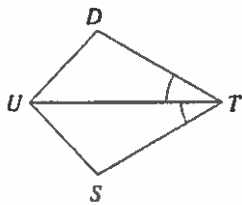


4)

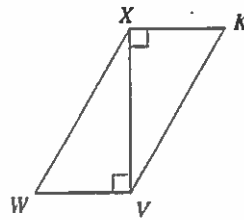


State what additional information is required in order to know that the triangles are congruent for the reason given.

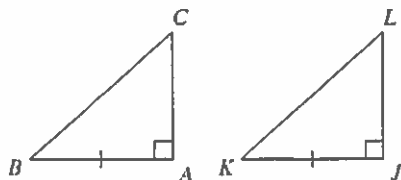
11) ASA



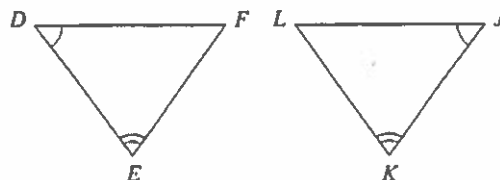
12) SAS



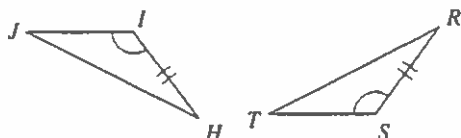
13) SAS



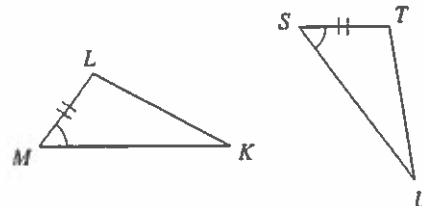
14) ASA



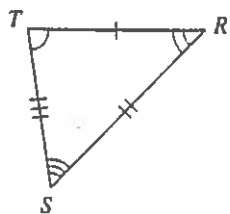
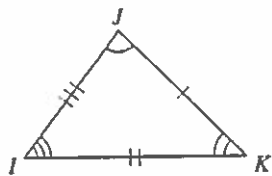
15) SAS



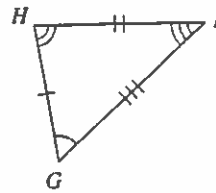
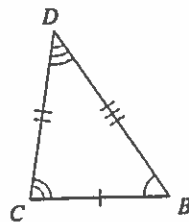
16) ASA



7)

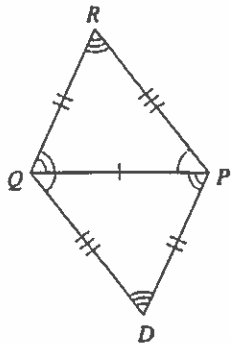


8)

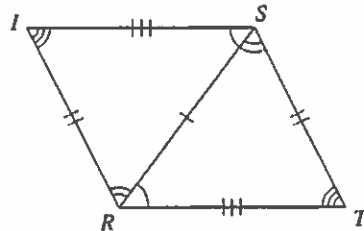


List all
pairs of
congruent
sides & angles

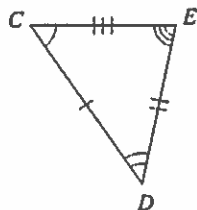
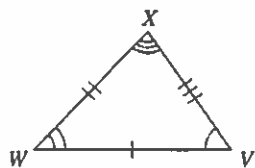
9)



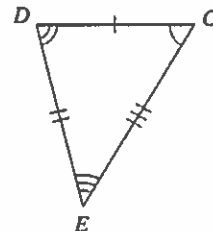
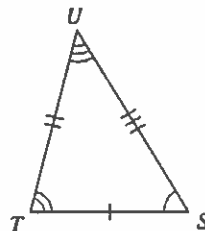
10)



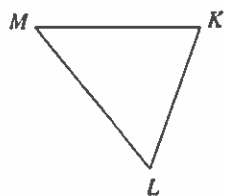
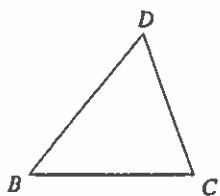
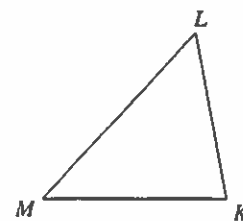
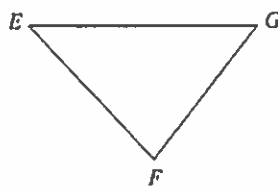
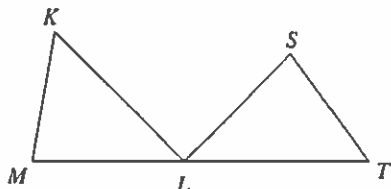
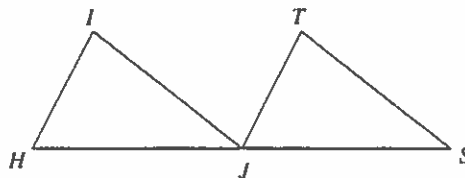
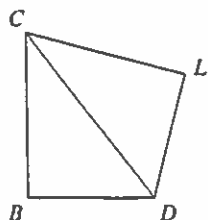
11)



12)



Mark the angles and sides of each pair of triangles to indicate that they are congruent.

13) $\triangle BDC \cong \triangle MLK$ 14) $\triangle GFE \cong \triangle LKM$ 15) $\triangle MKL \cong \triangle STL$ 16) $\triangle HIJ \cong \triangle JTS$ 17) $\triangle CDB \cong \triangle CDL$ 18) $\triangle JIK \cong \triangle JCD$ 