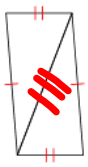
You will be successful on this test if you can…

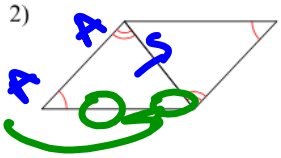
- ✓ Use the definition of complementary and supplementary angles, when looking at adjacent angles, to solve for a variable.
- ✓ Use the fact that all angles in a triangle add up to 180˚ to solve for a missing angle or variable.
- ✓ Use the exterior angle theorem to solve for a missing angle of variable.
- ✓ Identify and use the angle relationships created by parallel lines and transversals to solve for missing angle measures or variables.
- ✓ Use the properties of Isosceles triangles to solve for missing angles (to include problems that are found on page 17 of your packet).
- ✓ Use the triangle inequality theorem to order sides or angles and can explain your reasoning.
- ✓ Transform a figure using the rules of isometric transformations.
  - Translations
  - Reflections
  - Rotations
- ✓ Identify congruent parts of a triangles given the congruence statement.
- ✓ Identify congruent triangles using one of the five triangle congruence postulates, to include recognizing when there is not enough information provided.
- ✓ Provide reasons for statement listed in a proof or can provide reasons for given statements.

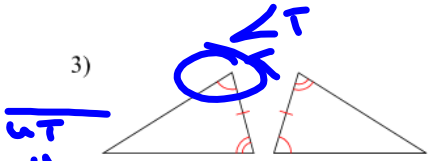
Geometry Name_____

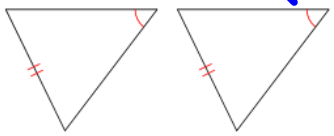
Date_____ Period____

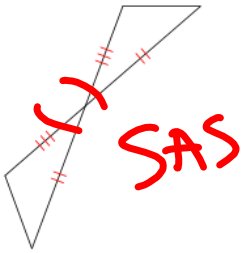
Determine if the two triangles are congruent. If they are, state how you know.

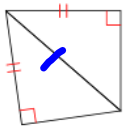
1)  SSS

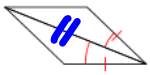
2) 

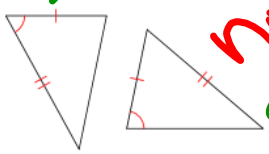
3) 

4)  not congruent

5)  SAS

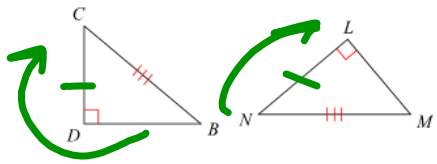
6)  HL

7)  SAS

8)  SAS not congruent SSA

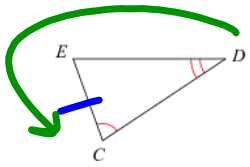
State what additional information is required in order to know that the triangles are congruent for the reason given.

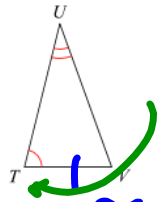
9) HL



$\overline{CD} \cong \overline{NL}$

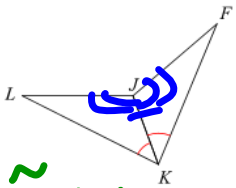
10) AAS





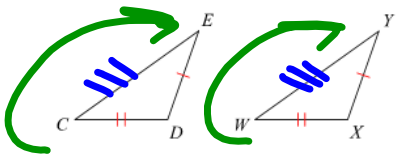
$\overline{EL} \cong \overline{VT}$

11) ASA



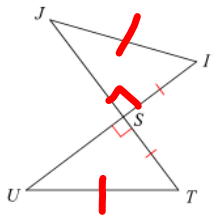
$\angle KJL \cong \angle KJF$

12) SSS



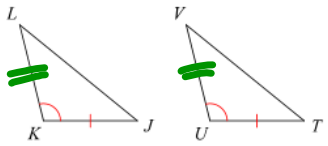
$\overline{EC} \cong \overline{YW}$

13) HL



$\overline{UT} \cong \overline{JT}$

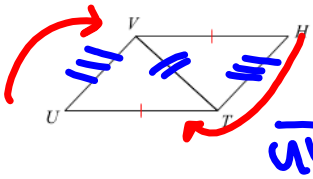
14) SAS



$\overline{LK} \cong \overline{VU}$

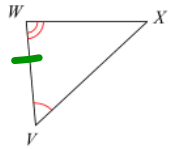
$\overline{WK} \cong \overline{LM}$

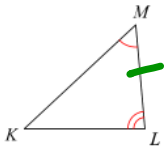
15) SSS



$\overline{UV} \cong \overline{HT}$

16) ASA



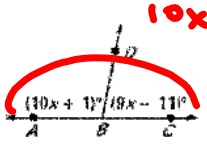


CCGPS Geometry 1 – Congruence & Triangles 1.6 – Review

Name: _____ Date: _____

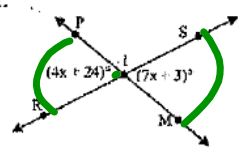
Unit 1 Test Review

Missing Angles: Solve for x.

1. 

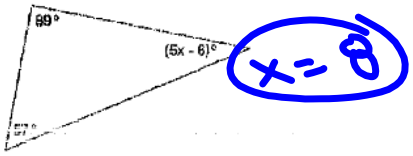
10x+1+9x-11=180

x=10

2. 

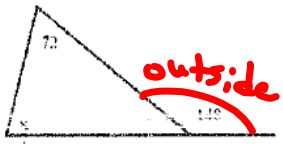
4x+24 = 7x+3

x=7

3. 

89+57+5x-6=180

x=8

4. 

outside

72+x=148

x=76

5. ∠1 and ∠2 are complementary. Solve for x and the measure of both angles.

∠1 = 12x + 4
∠2 = 9x + 2

∠1 + ∠2 = 90
12x+4 + 9x+2 = 90

x=4
∠1 = 52
∠2 = 38

6. The measure of one angle is 38 less than the measure of its supplement. Find the measure of each angle.

m∠1 = 109°
m∠2 = 71°

x + x-38 = 180
x = 109

7. One of two supplementary angles is 123° less than twice its supplement. Find the measure of both angles.

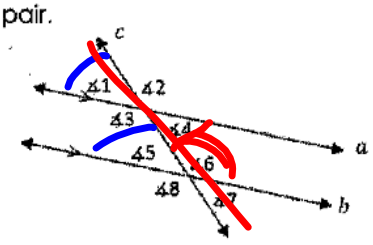
m∠1 = 101°
m∠2 = 79°

x + 2x-123 = 180
x = 101

Parallel Lines:

Name the angles listed and the special property of each pair.

8. ∠1 and ∠5 Corresponding
9. ∠4 and ∠6 Same-Side Interior
10. ∠2 and ∠8 AEA
11. ∠4 and ∠5 AIA



45

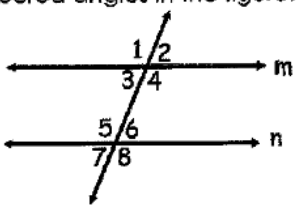
12. Given m | | n and m∠8, find the measures of all the numbered angles in the figure.

m∠8 = 112°

m∠1 = 112 m∠2 = 68

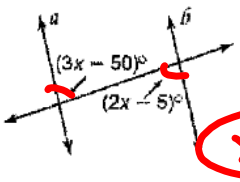
m∠3 = 68 m∠4 = 112

m∠5 = 112 m∠6 = 68 m∠7 = 68



Solve for x.

13.

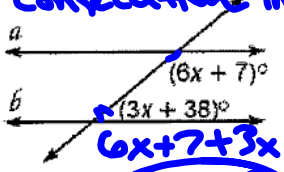


AIA

3x − 50 = 2x − 5

x = 45

14.



Consecutive Int.

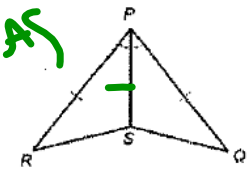
6x + 7 + 3x + 38 = 180

x = 15

Congruent Triangles:

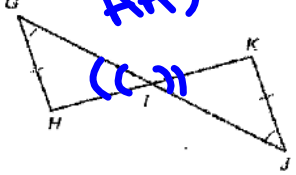
Determine whether each pair of triangles is congruent (SSS, SAS, ASA, AAS, or HL). If not, write not congruent.

15.



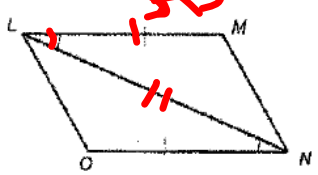
SAS

16.



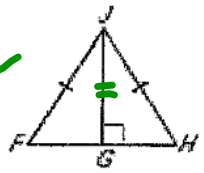
AAS

17.



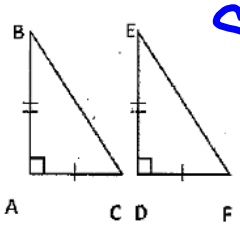
SAS

18.



HL

19.

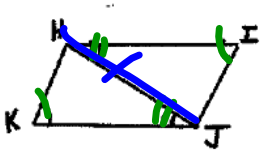


SAS

20. ΔABC ≅ ΔDEF. What is congruent to ∠EDF?

∠BAC

21. Complete the following proof:



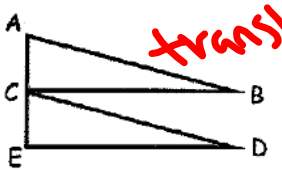
Statement	Reason
1. ∠I ≅ ∠K	1. Given
2. ∠HJI ≅ ∠KJH	2. Given
3. JH ≅ HJ	3. Reflexive Prop of ≅
4. ΔHJK ≅ ΔJHI	4. AAS

GSE Geometry Unit 1 – Transformations 1.8 – Review #1

Name: _____ Date: _____

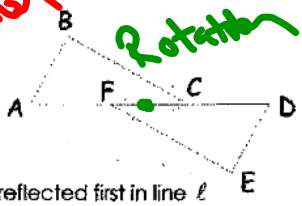
Name the transformation that maps:

1. ΔABC→ΔCDE



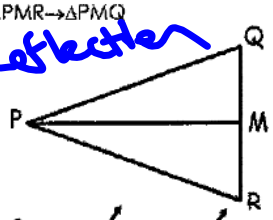
translation

2. ΔABC→ΔDEF



Rotation

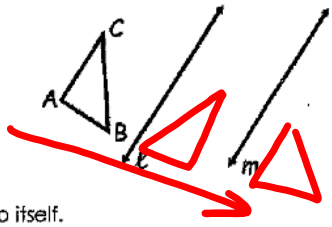
3. ΔPMR→ΔPMQ



Reflection

4. In the diagram, $\ell \parallel m$ and ΔABC is reflected first in line ℓ and then in line m. This set of reflections is equivalent to doing what kind of singular transformation?

Translation

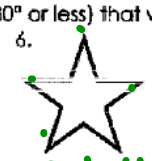


Describe any **rotations** (of 180° or less) that will map each figure onto itself.

5.

$\frac{360}{6}$ = 60, 120, 180

6.



72, 144

7.

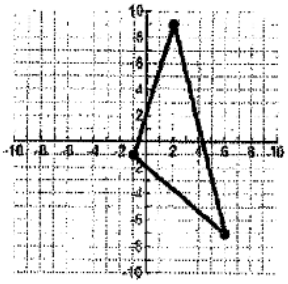
90, 180

8.

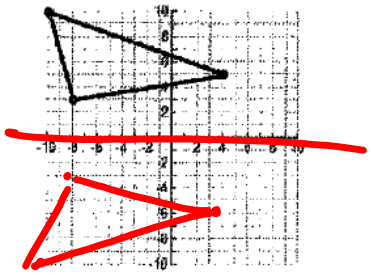
120

Draw the image of each figure, using the given transformation.

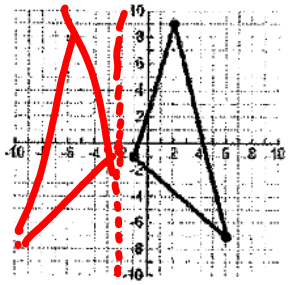
9. Translation (x, y) → **(x – 8, y – 3)**



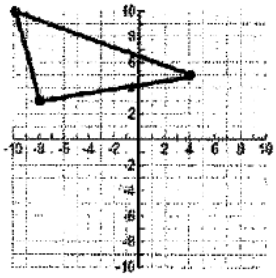
10. Reflection across the **x-axis.**



11. Reflection across the line **x = -2**



12. Reflection across the **y-axis.**



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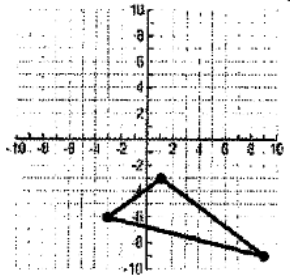
13. Rotation **180°** about the origin

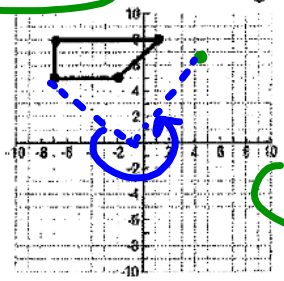


14. Rotation **90° clockwise** about the origin.

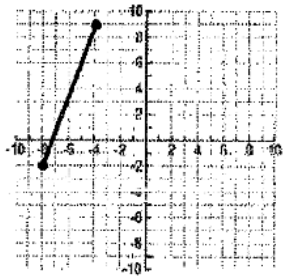
270. (y, -x)

(-7,5)

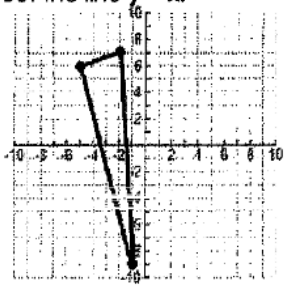
(5,7)



15. Translation (x, y) → **(x + 9, y – 8)**
Rotation 180° about the origin.



16. **Rotation 90° CCW** about the origin
Reflection about the line **y = x.**



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