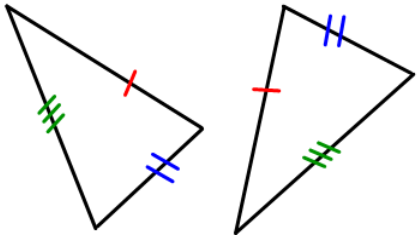
Math 2 **Name:**

Unit 4B Extra Credit **Date:**

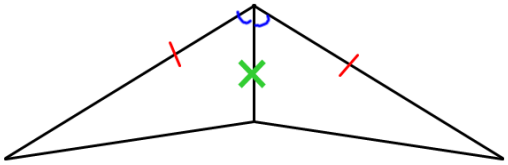
Directions: Check which congruence postulate you would use to prove that the two triangles are congruent.

1.



SSS ☐
SAS ☐
ASA ☐
AAS ☐

2.



SSS ☐
SAS ☐
ASA ☐
AAS ☐

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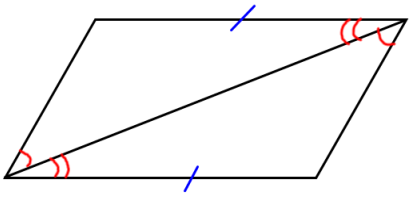

SSS ☐
SAS ☐
ASA ☐
AAS ☐

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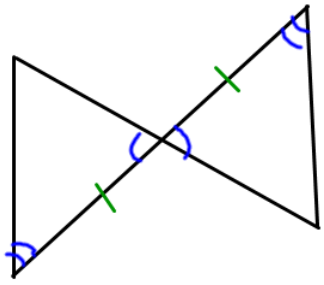
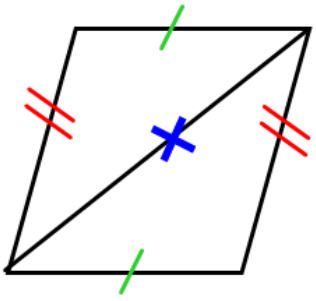


SSS ☐
SAS ☐
ASA ☐
AAS ☐

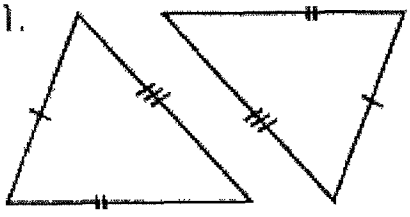
5.

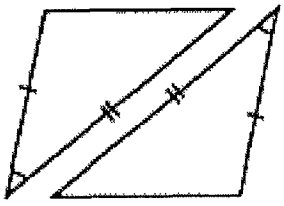


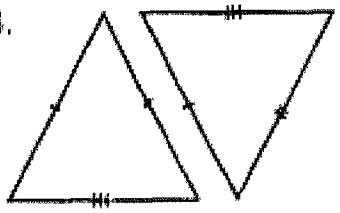
SSS ☐
SAS ☐
ASA ☐
AAS ☐

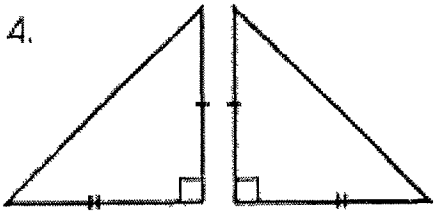
Congruent Triangles Worksheet #1 Name _____ Period _____

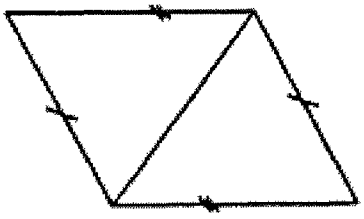
I. State whether these triangles are congruent by SSS, SAS, or none.

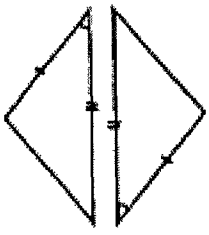
1. 

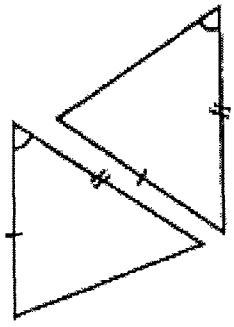
2. 

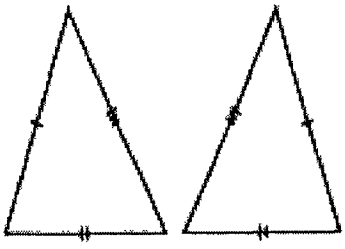
3. 

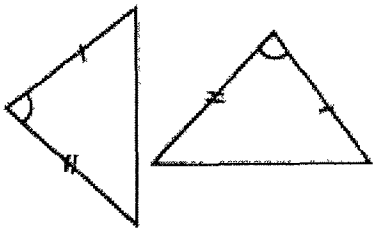
4. 

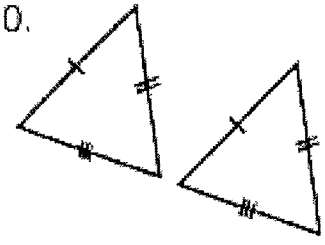
5. 

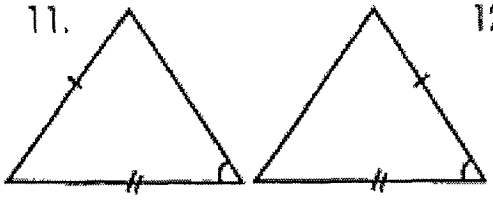
6. 

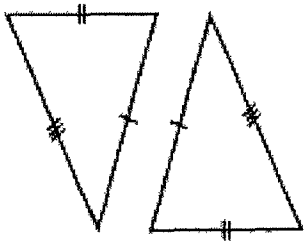
7. 

8. 

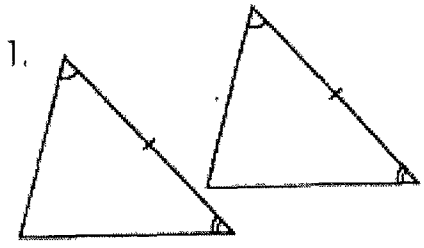
9. 

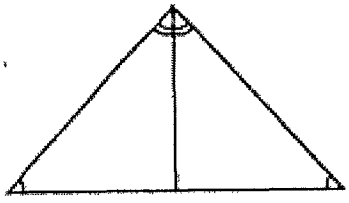
10. 

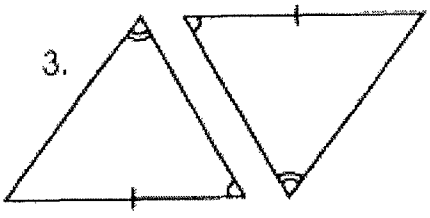
11. 

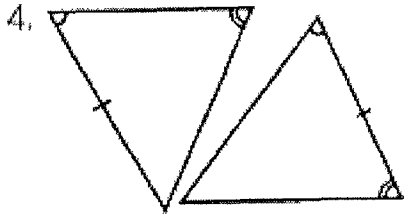
12. 

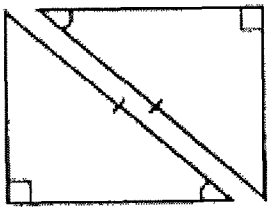
II. State whether these triangles are congruent by ASA, AAS, or none

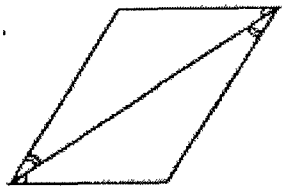
1. 

2. 

3. 

4. 

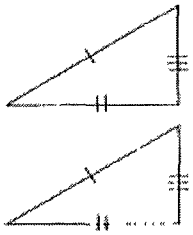
5. 

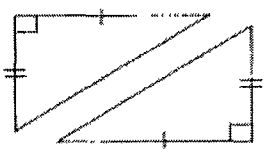
6. 

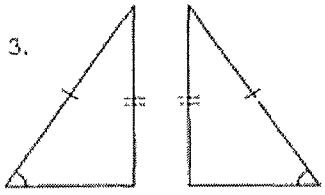
Congruent Triangles Worksheet #2

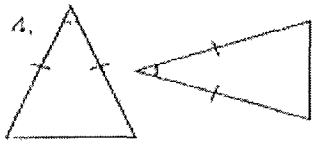
Name _____ Period _____

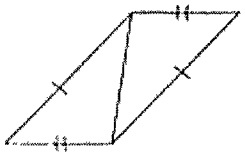
I State whether these triangles are congruent by SSS, SAS, or none

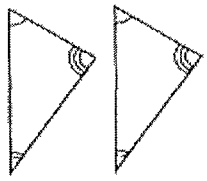
1. 

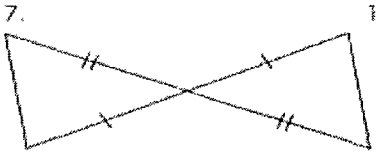
2. 

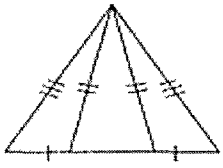
3. 

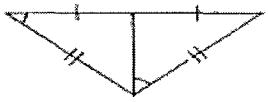
4. 

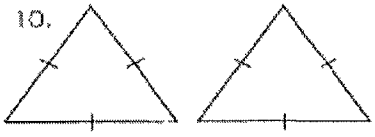
5. 

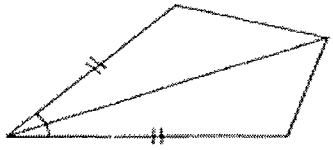
6. 

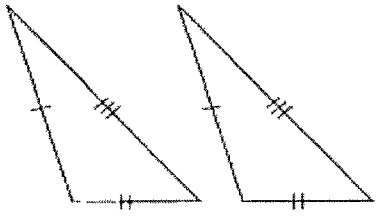
7. 

8. 

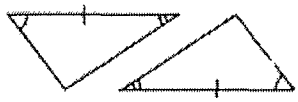
9. 

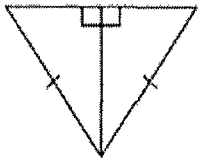
10. 

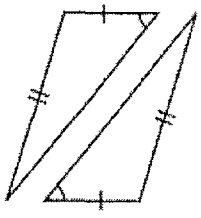
11. 

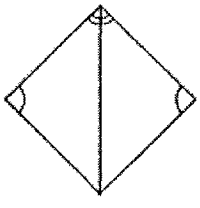
12. 

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

1. 

2. 

3. 

4. 

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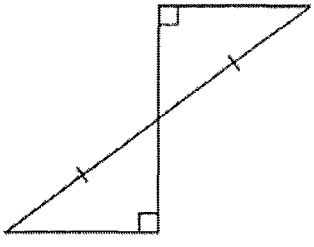
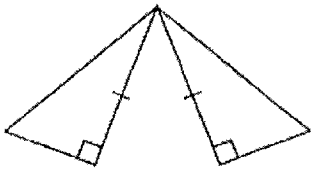
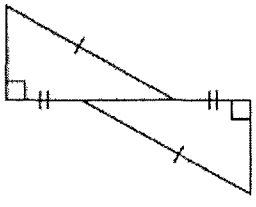
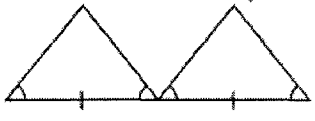
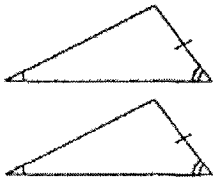
6. 

7. 

8. 

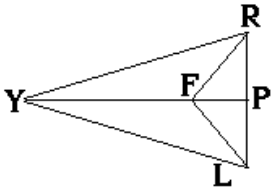
9. 

10. 

Practice. *Fill in the missing reasons*

6. **Given:** $\angle YLF \cong \angle FRY, \quad \angle RFY \cong \angle LFY$

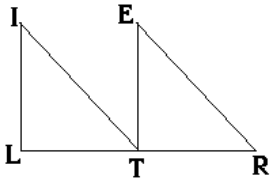
Prove: $\triangle FRY \cong \triangle FLY$



Statement	Reason
1. $\angle YLF \cong \angle FRY$	
2. $\angle RFY \cong \angle LFY$	
3. $\overline{FY} \cong \overline{FY}$	
4. $\triangle FRY \cong \triangle FLY$	

7. **Given:** $\overline{LT} \cong \overline{TR}, \ \angle ILT \cong \angle ETR, \ IT \parallel ER$

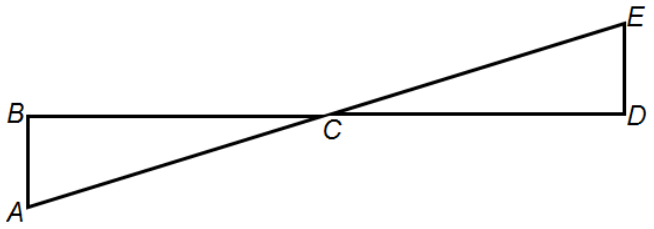
Prove: $\triangle LIT \cong \triangle TER$



Statement	Reason
1. $\overline{LT} \cong \overline{TR}$	
2. $\angle ILT \cong \angle ETR$	
3. $IT \parallel ER$	
4. $\angle LTI \cong \angle ERT$	
5. $\triangle LIT \cong \triangle TER$	

8. **Given:** C is midpoint of $\overline{BD}$
$\overline{AB} \perp \overline{BD}$
$\overline{BD} \perp \overline{DE}$

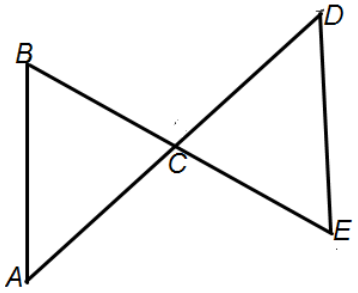
Prove: $\triangle ABC \cong \triangle EDC$



Statement	Reason
1. C is midpoint of $\overline{BD}$	
2. $\overline{AB} \perp \overline{BD}$ and $\overline{BD} \perp \overline{DE}$	
3. $\overline{BC} \cong \overline{CD}$	
4. $\angle BCA \cong \angle ECD$	
5. $\angle ABC$ and $\angle EDC$ are right angles	
6. $\angle ABC \cong \angle EDC$	
7. $\Delta ABC \cong \Delta EDC$	

9. **Given:** $\overline{BA} \cong \overline{ED}$
C is the midpoint of $\overline{BE}$ and $\overline{AD}$

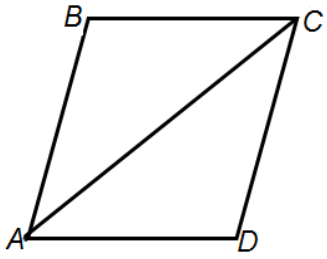
Prove: $\triangle ABC \cong \triangle DEC$



Statement	Reason
1. $\overline{BA} \cong \overline{ED}$	
2. C is the midpoint of $\overline{BE}$ and $\overline{AD}$	
3. $\overline{BC} \cong \overline{EC}$	
4. $\overline{AC} \cong \overline{DC}$	
5. $\Delta ABC \cong \Delta DEC$	

10. **Given:** $\overline{BC} \cong \overline{DA}$
$\overline{AC}$ bisects $\angle BCD$

Prove: $\triangle ABC \cong \triangle CDA$



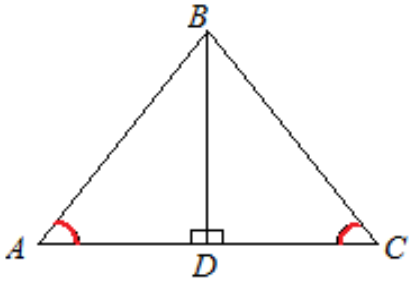
Statement	Reason
1. $\overline{BC} \cong \overline{DA}$	
2. $\overline{AC}$ bisects $\angle BCD$	
3. $\angle BCA \cong \angle DCA$	
4. $\overline{AC} \cong \overline{AC}$	
5. $\Delta ABC \cong \Delta CDA$	

Practice. *Write a 2-column proof for the following problems.*

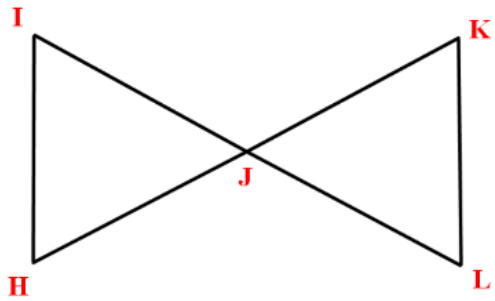
11.

Given: $\angle ADB$ and $\angle CDB$ are right angles
$\angle A \cong \angle C$

Prove: $\Delta ADB = \Delta CDB$

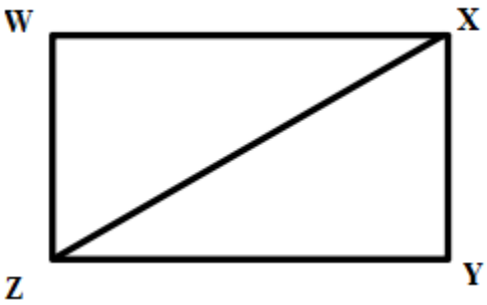


Example 2: Given: J is the midpoint of IL.
J is the midpoint of HK.
Prove: ΔIJH ≅ ΔLJK



Statement:	Reason:

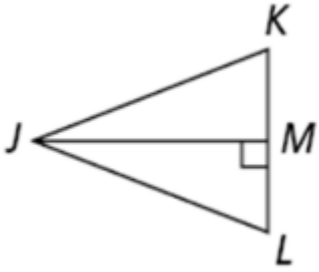
You Try! Given: WX ∥ YZ, WX ≅ YZ
Prove: Δ*WXZ* ≅ Δ*YZX*
(Hint: It should take anywhere from 4-5 steps)



Statement:	Reason:

You Try! Given: $\overline{JM}$ bisects $\angle J$.
$\overline{JM} \perp \overline{KL}$

Prove: Δ*JMK* ≅ Δ*JML*



Statement:	Reason:

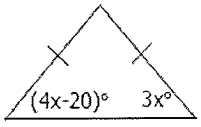
Worksheet Analyzing Isosceles Triangles

Name _____

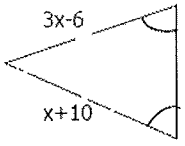
Period _____

I. Find the missing value.

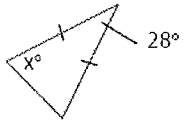
1) x = _____



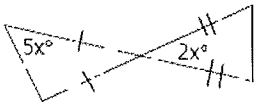
2) x = _____



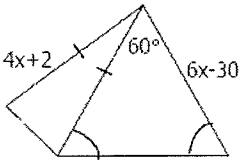
3) x = _____



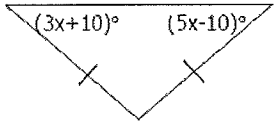
4) x = _____



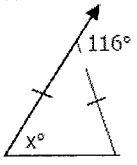
5) x = _____



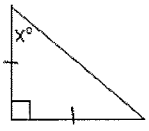
6) x = _____



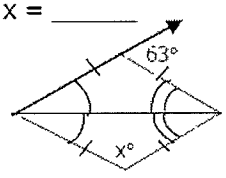
7) x = _____



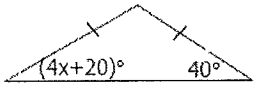
8) x = _____



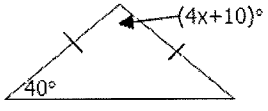
9) x = _____



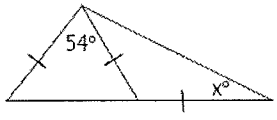
10) x = _____



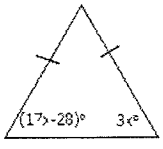
11) x = _____



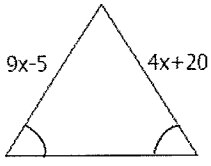
12) x = _____



13) x = _____



14) x = _____



15) x = _____