Tooele County Lesson Plan Template

Class:	Secondary Math 1 Triangle Congruence Reciprocal Teaching	Standard:	G.CO.8 Explain how the triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions. G.CO.7 use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.

What do I want my students to learn and be able to do? Learning Objective in Student Friendly Language (Post in class for students to see.)

Use the reciprocal teaching strategies and apply triangle congruence theorems to determine if two triangles are congruent.

Tier 1 Instruction - Step by Step Procedure	Considerations for Special Populations:	What will I do if they don't learn it? (Tier 2 & 3 interventions)
15 minutes Performance Quizette - Combining and Evaluating Functions 5 minutes Homework Q&A 5 minutes Review triangle congruence theorems 2 minutes Why does AAS triangle congruence work? 3 minutes Why doesn't SSA triangle congruence work? (Use TI Nspire to demonstrate) 2 minutes Discuss: Is AAA a triangle congruence theorem? Definition of Similarity 5 minutes Discuss: Vertical angles are congruent, sides are congruent by reflexivity 5 minutes Practice labeling sides and angles of triangles to and compare order	*Reciprocal Teaching	*one on one instruction and modeling with Triangle congruence frame
5 minutes Model Reciprocal teaching with first problem Predict: (right or wrong, doesn't matter) so long as info is used for thoughtful prediction. Question: "Is there anything that isn't marked that is congruent?" plus other questions. Clarify: Clarify by labeling triangles and comparing. Summary: Are they congruent? why or why not? 5 minutes Break into groups and assign roles with popsicle sticks. 25 minutes Groups use Reciprocal Teaching strategy, rotating roles after each question. 5 minutes Questions and homework	**What explicit teaching strategies need to be emphasized?** *modeling *reciprocal teaching	**What will I do if they already know it? (What additional challenges will I assign?)** *After proving triangle congruence, determine the transformation that will map one triangle onto the other. *Write two column proofs to prove triangle congruence.

Key Vocabulary:

Congruence	Vertical Angles
Similarity	Reflexive Property

Triangle Congruence Theorems: ASA, SAS, SSS, AAS

How will you know that they learned the material?	**Resources/Materials Needed:**
6.6 homework 6.5.6 Triangle congruence quiz	Triangle Congruence Frame Reciprocal Teaching Triangle Congruence Task TI Nspire to show SSA triangle incongruence

**Reflect on how the lesson was received by the students:**

**The FRAME Routine**

Key Topic: Congruent Triangles

is about...

using rules to determine if a pair of triangles are congruent

Main idea — 4 rules determine congruency between triangles

SSS   SAS   ASA   AAS

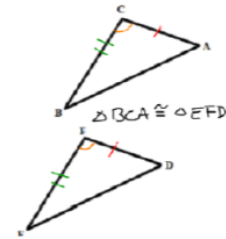side — side — side

SSA — NOT a rule!

Main idea

SSS

If the 3 corresponding sides are congruent, then the triangles are congruent

△ABC ≅ △EDF
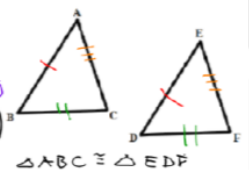
Main idea

ASA

If two angles and the side between them are congruent, then the triangles are congruent

△CAB ≅ △FDE
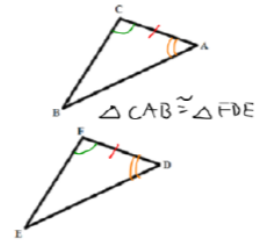
Main idea

SAS

If two sides and the angle between them are congruent then the triangles are congruent

△BCA ≅ △EFD

Main idea

AAS

If two angles and one side are congruent, then the triangles are congruent
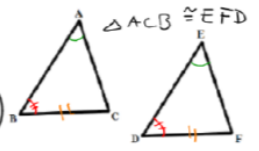
△ACB ≅ △EFD

Math 1   Names_____

In Class Reciprocal Teaching Task   _____

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

1)
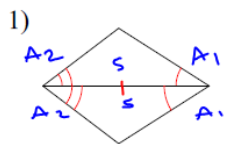
Purple - Predict   **Blue - Clarify**

Green - Question   **Red- Summarize**

a. **Predict:** What is your groups predicton?

Congruent

c. **Clarify:** What do you know about the two triangles? What do you need to know?

Label

Do we have 3 pieces of info?

b. **Questions:** What are the questions you need to ask to help understand the problem?

Anything ≅ that isn't marked? which congruence property?

d. **Summary:** What is your solution and why does it work and what does it mean about the triangles?

$$A_1 S A_2 \qquad A_1 S A_2$$

$$\cong \text{ by } ASA$$

Math 1   Names_____

In Class Reciprocal Teaching Task   _____

State if the two triangles are congruent. If they are, state how you know.
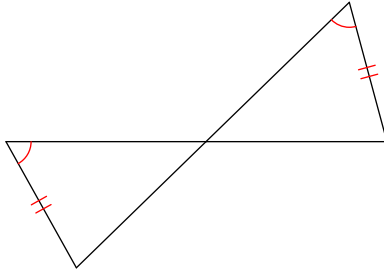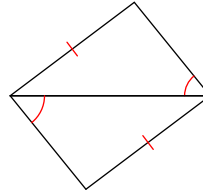
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1)
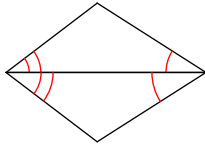
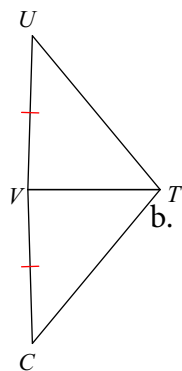a. Predict: What is your groups predicton?

b. Questions: What are the questions you
need to ask to help understand the problem?

c. Clarify: What do you know about the two
triangles? What do you need to know?

d. Summary: What is your solution and why
does it work and what does it mean about the
triangles?

2)
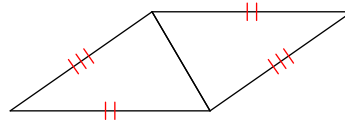
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3)
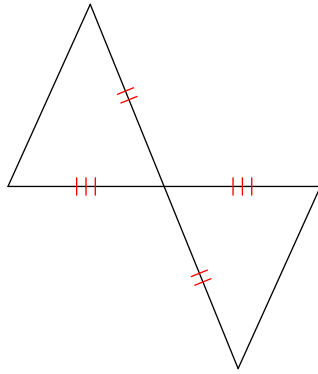
a. Predict: What is your groups predicton?

b. Questions: What are the questions you need to ask to help understand the problem?

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4)
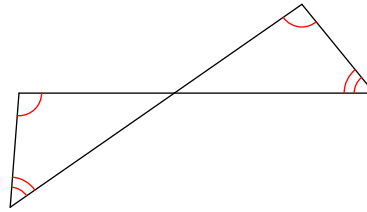
a. Predict: What is your groups predicton?

b. Questions: What are the questions you need to ask to help understand the problem?

c. Clarify: What do you know about the two triangles? What do you need to know?

d. Summary: What is your solution and why does it work and what does it mean about the triangles?

5)

a. Predict: What is your groups predicton?

b. Questions: What are the questions you need to ask to help understand the problem?

c. Clarify: What do you know about the two triangles? What do you need to know?

d. Summary: What is your solution and why does it work and what does it mean about the triangles?

6)

a. Predict: What is your groups predicton?

b. Questions: What are the questions you need to ask to help understand the problem?

c. Clarify: What do you know about the two triangles? What do you need to know?

d. Summary: What is your solution and why does it work and what does it mean about the triangles?

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

7) SSS

a. Predict:

b. Questions:
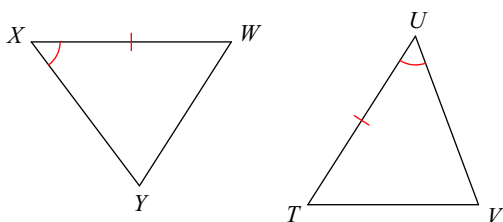
c. Clarify:

d. Summary:

8) SAS

a. Predict:

b. Questions:

c. Clarify:

d. Summary:

9) SAS

a. Predict:
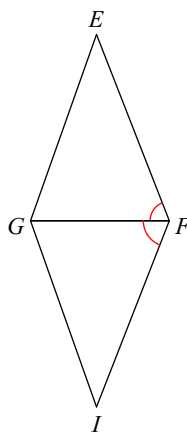
b. Questions:

c. Clarify:

d. Summary:

10) SAS

a. Predict:

b. Questions:

c. Clarify:

d. Summary:

Name_____
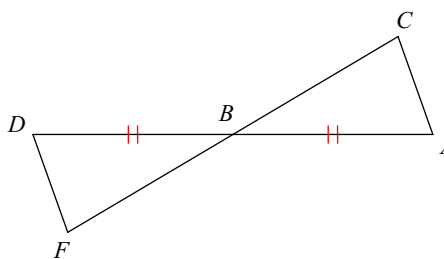
Congruence, Construction, and Proof 6.6

Period_____

Write a statement that indicates that the triangles in each pair are congruent.

1)
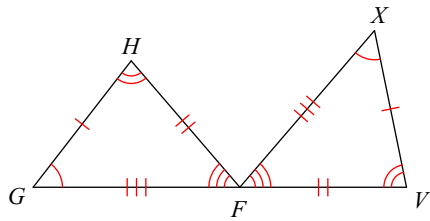
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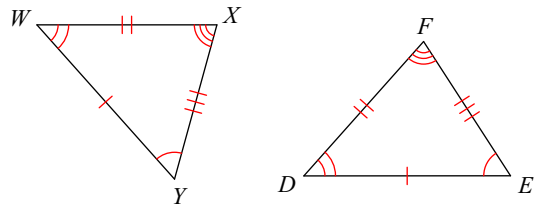
State if the two triangles are congruent. If they are, state how you know.

3)
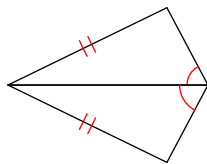
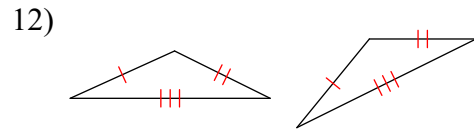
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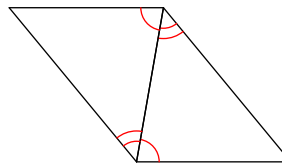
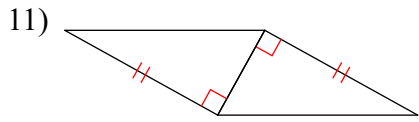5)
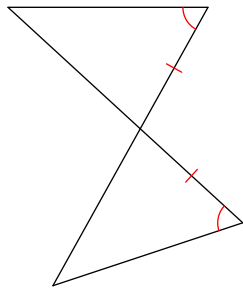
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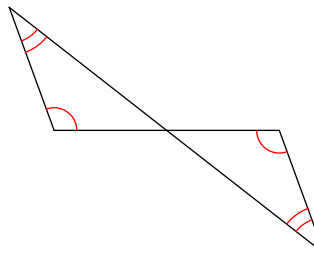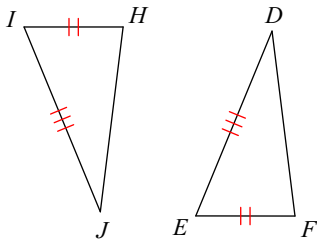

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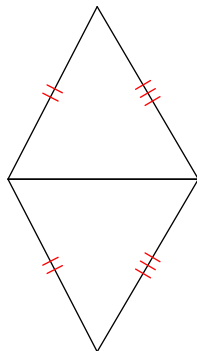
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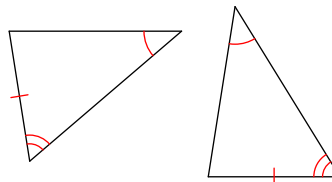
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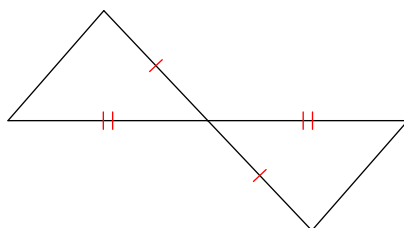
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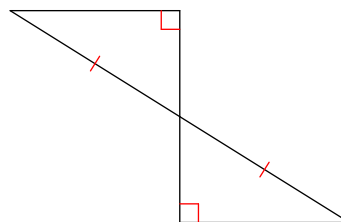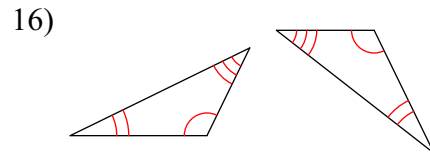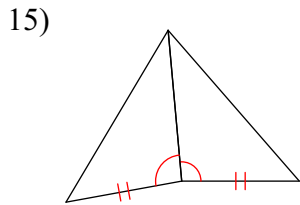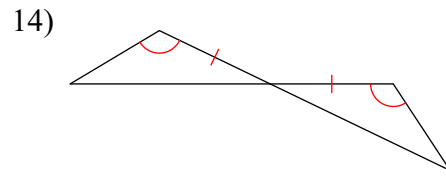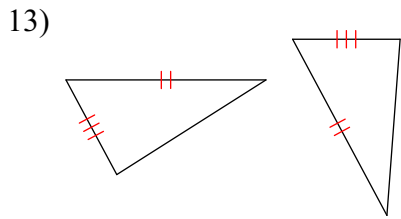
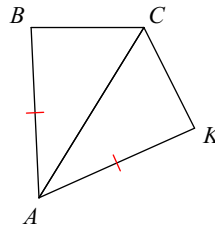11)

12)

13)

14)

15)

16)

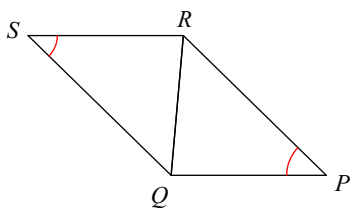**State what additional information is required in order to know that the triangles are congruent for the reason given.**

17) SAS

18) SSS

19) AAS

20) AAS