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|  | Topic/Objective: Triangle Congruence |  |
| Essential Question: What makes triangles congruent?  |
|  | **Quick Write.**What information would we need to prove two triangles congruent?How can this congruency be stated?**Practice:**If \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, finish the following congruence statements and mark the corresponding congruent sides and the corresponding congruent angles.Complete the congruence statements for the triangles.Consider the triangles where \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Mark the corresponding congruent sides with hash marks and the corresponding congruent angles with arcs.To state that two triangles are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, we don’t need to know that all three sides and all three angles are congruent. Four \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ help us determine \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_If three \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of one triangle are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to three \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of a second triangle, then the two triangles are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.We can prove the following triangles are congruent by the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.Write the congruency statement for the triangles above.**Quick Write:**Determine if Angle-Angle-Angle Congruency (AAA) exists and explain why it does or does not.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_If two \_\_\_\_\_\_\_\_\_\_\_\_\_ and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of one triangle are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to two \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of a second triangle, then the two triangles are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.We can prove the following triangles are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ by the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Write the congruency statement for the triangles above.**Quick Write:**Determine if Side-Side-Angle Congruence exists and explain why it does or does not.**Your turn:**What information is needed to prove the triangles below are congruent using SSS Congruence Postulate?What information is needed to prove the triangles below are congruent using the SAS Congruence Postulate?What information is needed to prove the triangles below are congruent using the SSS Congruence Postulate? Give the reason.Consider $∆CAR$ and $∆CER$ in the figure below.Consider $∆GRT$ and $∆ARE$ in the diagram below.Moshi is making a quilt using the pattern below and wants to be sure her triangles are congruent before cutting the fabric. She measures and finds that $\overbar{NV}≅ \overbar{VO}$ and $∠N≅ ∠O$.Can Moshi determine if the triangles are congruent with the given information? If not, what other information would allow her to do so? Justify your answer.Iskra is a structural engineer, designing a tri-bearing truss for the roof of a new building. She must determine if the triangles below are congruent for the stability of the roof.Consider the figures below.In the above diagram, $∆WED ≅ ∆FRI$ based on the ASA Congruence Postulate.Name the congruent sides and angles in these two triangles.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_If two \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of one triangle are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to two \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_ of a second triangle, then the two triangles are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.In the diagram, $∆MON ≅ ∆SAT$ based on the AAS Congruence Postulate.Name the congruent sides and angles in these two triangles.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_If two \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_ of one triangle are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to two \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_ of a second triangle, then the two triangles are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.Consider the Triangles below:Identify the postulate you could use to prove that the two triangles are congruent, given each additional congruence statement below.Consider the figure below.Nadia would like to use the AAS Congruence Postulate to prove that $∆TIS ≅ ∆ITH$. Would knowing that $∠S ≅ ∠H$ be enough information for Nadia to use this postulate? If not, find the missing congruence statement.Consider $∆PAI$ and $∆TNI$ in the diagram below.  |
| Summary: |