

Name: _____ # _____

Geometry: Period _____

Ms. Pierre

Date: _____

Congruent Triangles

Today's Objective

SWBAT prove triangles are congruent by using SSS and SAS.

Two triangles are _____ if all of their corresponding _____ are congruent and all of their corresponding _____ are congruent. However, you do not need to know the measure of every side and angle to show that two triangles are _____.

Postulate 5-1-1 Side-Side-Side (SSS) Congruence

POSTULATE	HYPOTHESIS	CONCLUSION
If three sides of one triangle are congruent to three sides of another triangle, then the triangles are congruent.		

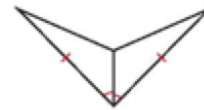
Postulate 5-1-2 Side-Angle-Side (SAS) Congruence

POSTULATE	HYPOTHESIS	CONCLUSION
If two sides and the included angle of one triangle are congruent to two sides and the included angle of another triangle, then the triangles are congruent.		

Example 1

Which postulate, if any, can be used to prove the triangles congruent?

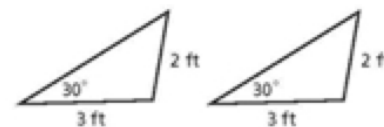
1.



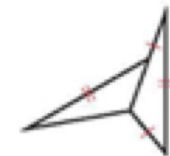
2.



3.



4.



Postulate 5-2-1 Angle-Side-Angle (ASA) Congruence

POSTULATE	HYPOTHESIS	CONCLUSION
If two angles and the included side of one triangle are congruent to two angles and the included side of another triangle, then the triangles are congruent.		

Theorem 5-2-2 Angle-Angle-Side (AAS) Congruence

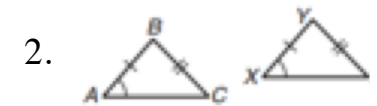
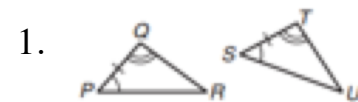
THEOREM	HYPOTHESIS	CONCLUSION
If two angles and a nonincluded side of one triangle are congruent to the corresponding angles and nonincluded side of another triangle, then the triangles are congruent.		

Theorem 5-2-3 Hypotenuse-Leg (HL) Congruence

THEOREM	HYPOTHESIS	CONCLUSION
If the hypotenuse and a leg of a right triangle are congruent to the hypotenuse and a leg of another right triangle, then the triangles are congruent.		

Example 2

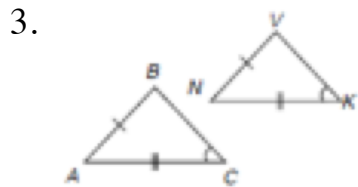
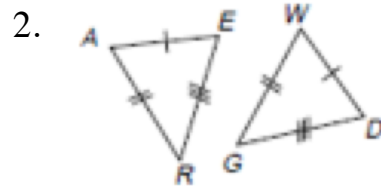
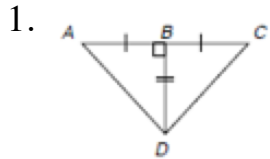
Which postulate if any, can be used to prove the triangles congruent?





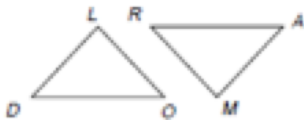
Guided Practice

Determine whether each pair of triangles is congruent. If so, write a congruence statement and explain why the triangles are congruent.



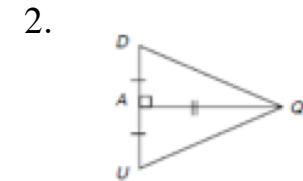
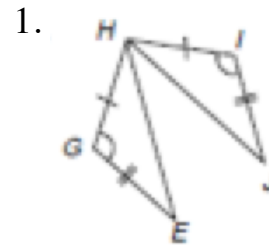
Use the given information to determine whether the two triangles are congruent by SAS. Write “yes” or “no”.

5. $\angle L \cong \angle M, \overline{LD} \cong \overline{MR}, \overline{LO} \cong \overline{MA}$



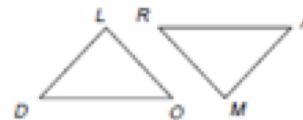
Independent Practice

Determine whether each pair of triangles is congruent. If so, write a congruence statement and explain why the triangles are congruent.



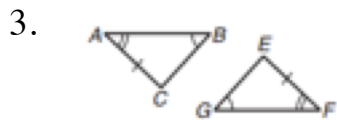
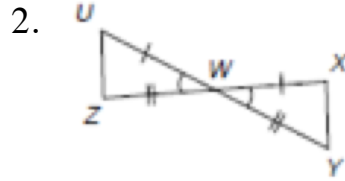
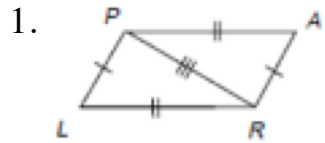
Use the given information to determine whether the two triangles are congruent by SAS. Write “yes” or “no”.

5. $\angle L \cong \angle M, \overline{LD} \cong \overline{MR}, \angle O \cong \angle A$



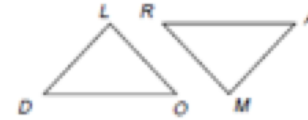
 **Homework**

Determine whether each pair of triangles is congruent. If so, write a congruence statement and explain why the triangles are congruent.



Use the given information to determine whether the two triangles are congruent by SAS. Write “yes” or “no”.

5. $\overline{LD} \cong \overline{MR}$, $\overline{LO} \cong \overline{MA}$, $\angle O \cong \angle A$



6. $\overline{LD} \cong \overline{MR}$, $\overline{LO} \cong \overline{MA}$, $\overline{DO} \cong \overline{RA}$

