

5.3

Name (print first and last) _____ Per _____ Date: 12/15 due 12/16

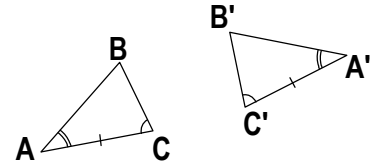
5.3 Congruence: ASA \cong and SSS \cong

Geometry Regents 2013-2014 Ms. Lomac

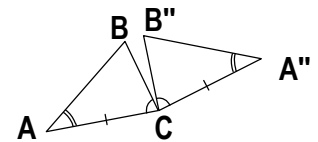
SLO: I can use SAS \cong to prove the isosceles triangle theorem.

(1) Prove: If, in a triangle, we know that two pairs of corresponding angles and the pair of corresponding sides between them are congruent, then two triangles are congruent.

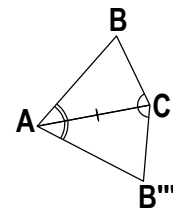
① I am given _____
with _____ \cong _____, _____ \cong _____, and _____ \cong _____.
(Describe the shape and the parts that are marked congruent.)



② I _____ \triangle _____ along vector _____ so that _____ coincides with _____.
(How did ABC transform?)



③ I _____ \triangle _____ around _____ so that _____ coincides with _____. I know that _____ and _____ coincide because _____ preserves _____ and _____ \cong _____.
(How did A''B''C'' transform?)



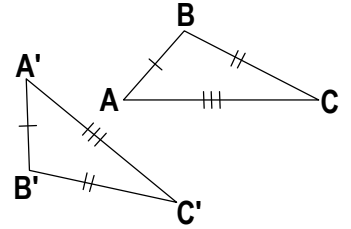
④ I _____ \triangle _____ across _____ so that _____ coincides with _____. I know that _____ and _____ coincide because (1) \angle _____ \cong \angle _____ which means ray _____ coincides with ray _____, (2) \angle _____ \cong \angle _____ which means ray _____ coincides with ray _____. Point _____ must coincide with _____ because 2 noncollinear rays can intersect in, at most, _____ point which means _____ and _____ must _____ when reflected across line segment AC.
(How did A''B''C'' transform?)

⑤ If we know that _____
then _____
Therefore A _____ S _____ A _____ is a shortcut for proving triangles congruent.
The pair of _____ must be _____ the pair of _____.
(What were we trying to prove? Did we prove it?)

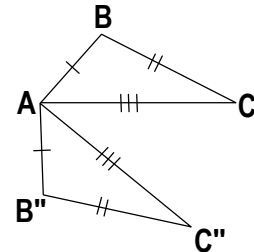
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(2) Prove: If three pairs of corresponding sides are congruent for two triangles, then two triangles are congruent.

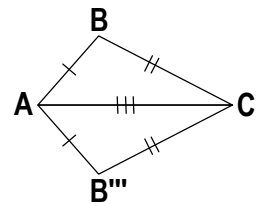
① I am given _____
 with _____ \cong _____, _____ \cong _____, and _____ \cong _____.
 (Describe the shape and the parts that are marked congruent.)



② I _____ \triangle _____ along vector _____ so that _____ coincides with _____.
 (How did ABC transform?)



③ I _____ \triangle _____ around _____ so that _____ coincides with _____. I know that _____ and _____ coincide because _____ preserves _____ and _____ \cong _____,
 (How did A'B'C' transform?)



④ I _____ \triangle _____ across _____ so that _____ coincides with _____. I know that _____ and _____ coincide because _____ \cong _____ and _____ \cong _____. Point _____ must coincide with _____ because, by construction, the greatest number of points that are given distances from each of two endpoints of a segment is _____, and these points are _____ of one another. This means _____ and _____ must _____ when reflected across line segment AC.
 (How did A''B''C'' transform?)

⑤ If we know that _____
 then _____
 Therefore S _____ S _____ S _____ is a shortcut for proving triangles congruent.
 (What were we trying to prove? Did we prove it?)

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(3) Given: M is the midpoint of \overline{HP} , $\angle H \cong \angle P$

Prove: Two triangle are congruent

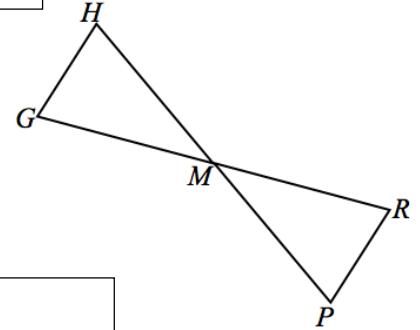
Choose which to use
SAS \cong
ASA \cong
SSS \cong

① I am given _____
and _____.
(Mark congruent parts.)

② _____ \cong _____ because _____
(What do we know about midpoints?)

③ _____ \cong _____ because _____
(What relationship can we get directly from the diagram?
Remember, "it looks like it" is not evidence for a proof.)

④ \triangle _____ \cong \triangle _____ because _____
(What shortcut did we use?)

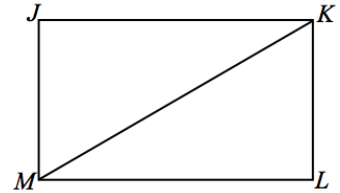


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(4) Given: JKLM is a rectangle with diagonal KM Prove: Two triangle are congruent

Choose which to use
 SAS≅
 ASA≅
 SSS≅

① I am given _____
 (Mark congruent parts.)



② _____ ≅ _____ because _____
 (What is true about opposite sides of a rectangle? Mark the diagram.)

③ _____ ≅ _____ because _____
 (What is true about opposite sides of a rectangle? Mark the diagram.)

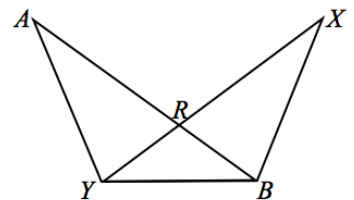
④ _____ ≅ _____ because _____
 (What can you get directly from the diagram? Mark the diagram.)

⑤ \triangle _____ ≅ \triangle _____ because _____.
 (Which pair of triangles are congruent?)

(5) Given: $\overline{RY} \cong \overline{RB}$, $\overline{AR} \cong \overline{XR}$ Prove: $\triangle ARY \cong$ to another triangle

Choose which to use
 SAS≅
 ASA≅
 SSS≅

① I am given _____
 (Mark the diagram.)



② _____ ≅ _____ because _____
 (Mark the diagram.)

③ _____ ≅ _____ because _____
 (Do we have enough evidence to prove our statement?.)

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(6) Given: $\angle A \cong \angle D$, $\overline{AE} \cong \overline{DE}$ Prove: $\triangle AEB \cong$ to another triangle

Choose which to use

SAS \cong

ASA \cong

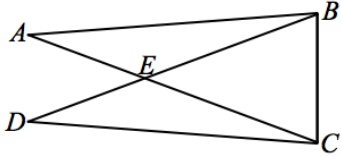
SSS \cong

① I am given _____
(Mark the diagram.)

② _____ \cong _____ because _____
(Mark the diagram.)

③ _____ \cong _____ because _____

(Do we have enough evidence to prove our statement?.)



Choose which to use

SAS \cong

ASA \cong

SSS \cong

(7) Given: $\overline{AB} \cong \overline{AC}$, $BD = \frac{1}{4} AB$, $CE = \frac{1}{4} AC$ Prove: $\triangle ABE \cong$ to another triangle (Draw the triangles separately)

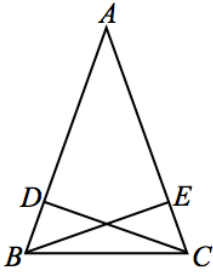
① _____
because _____

② _____
because _____

③ _____
because _____

④ _____ because _____

(Do we have enough evidence to prove our statement?.)



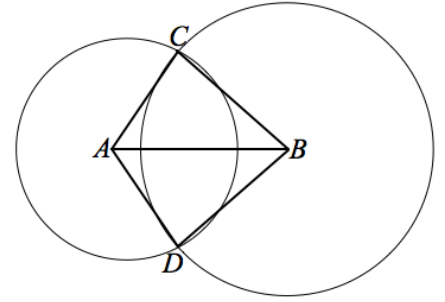
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(8) Circles A and B intersect in points C and D,

Prove: $\angle CAB \cong \angle DAB$

Choose which to use
SAS \cong
ASA \cong
SSS \cong

Plan: I will prove congruent triangles _____ and _____ to get congruent parts. (This should take 6+ steps)

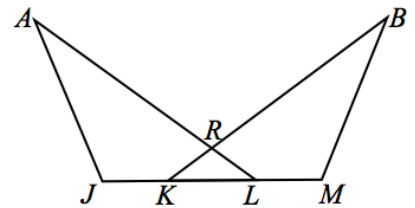


(9) Given $\angle J = \angle M$, $\overline{JA} \cong \overline{MB}$, $\overline{JK} \cong \overline{KL} \cong \overline{LM}$,

Prove: $\overline{KR} \cong \overline{LR}$

Choose which to use
SAS \cong
ASA \cong
SSS \cong

Plan: I will prove congruent triangles _____ and _____ to get congruent parts. (This should take 5+ steps)

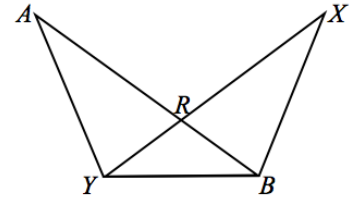


5.3 Exit Ticket Name _____ Per _____

Complete the statement. You may use diagrams to support your statement.

Given: $\overline{AY} \cong \overline{XB}$, $\overline{AB} \cong \overline{XY}$. Prove: $\triangle ABY \cong \triangle XYB$

- 😊 I got this! 🏆
- 😊 I can with a bit of help 🏆
- 😊 I will, given lots of help 🏆
- 😊 I can't 🏆
- 😊 I won't bother to 🏆
- 😊 I refuse to 🏆

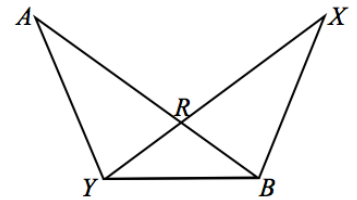


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