Enhanced End of Topic Assessment

Name _____ Date _____

Part A: Multiple-Choice Questions

1. Which answer choice states the following? "If point B is on $\overline{AC}$ and between points A and C, then $AB + BC = AC$."

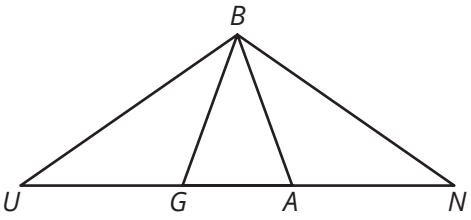
a. Segment Addition Postulate

b. Addition Property

c. Congruent Supplement Theorem

d. Definition of a midpoint

2. Triangle BAG is isosceles with $\overline{BG} \cong \overline{BA}$. What is one additional piece of information that is needed to prove $\Delta BGN \cong \Delta BAU$ by SAS?



a. $\overline{GN} \cong \overline{AU}$

b. $\overline{BU} \cong \overline{BN}$

c. $\overline{AU} \cong \overline{AN}$

d. $\overline{AG} \cong \overline{GA}$

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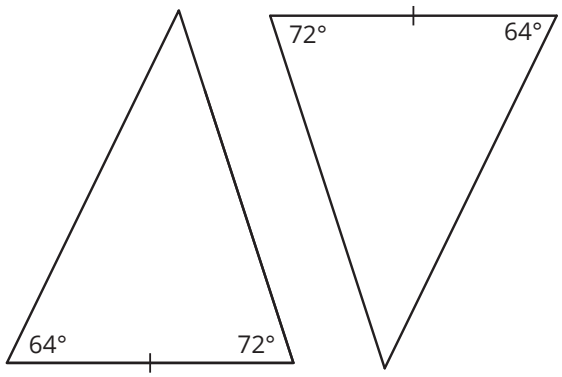
3. Which congruence theorem proves that the triangles shown are congruent?



a. SSS

b. SSA

c. SAS

d. ASA

4. Consider the statement shown.

If a four-sided shape has two sides of the same length, then it must be a rectangle.

Which shape does **NOT** provide a counterexample to the statement?

a. Rhombus

b. Square

c. Trapezoid

d. Kite

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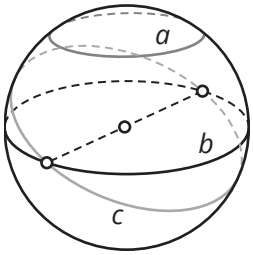
Part B: Open-Response Questions

5. Provide a counterexample for the statement shown.

If a number is a perfect square, then the number is an even number.

6.



a. Identify the figures in the image that are spherical lines. Explain your reasoning.

b. Can spherical lines be parallel? Explain why or why not.

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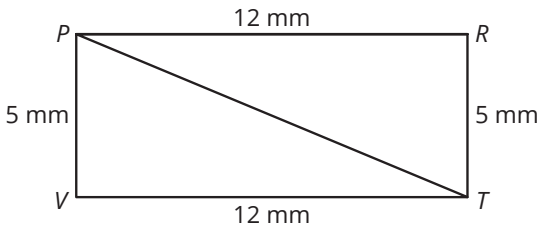
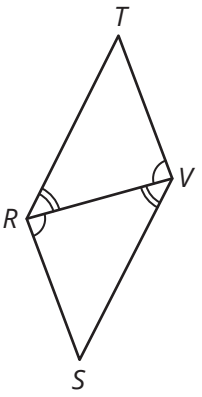
7. State the congruence theorem that proves the triangles in each diagram are congruent. If not enough information is given, then, name an example of information that could be given for you to use to prove congruency. Explain your reasoning.

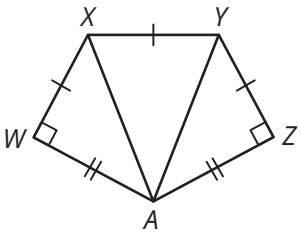
a. $\Delta PRT \cong \Delta TVP$



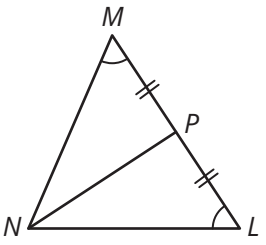
b. $\Delta RTV \cong \Delta VSR$



c. $\Delta XWA \cong \Delta YZA$



d. $\Delta MPN \cong \Delta LPN$



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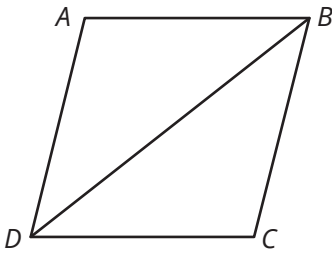
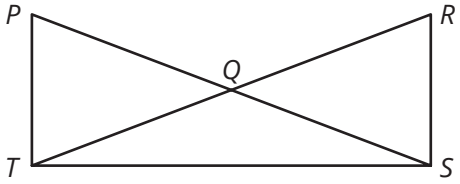
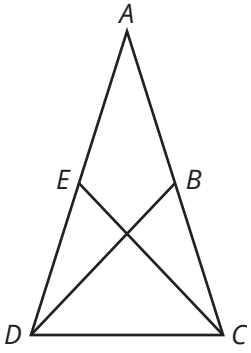
8. Given $\overline{AD} \cong \overline{CB}$ and $\angle ADB \cong \angle CBD$. Prove $\Delta DAB \cong \Delta BCD$.



9. Suppose $\overline{PT} \cong \overline{RS}$. What information do you need to conclude that $\Delta PTS \cong \Delta RST$ using the SSS Congruence Theorem?



10. Suppose $\angle ADB \cong \angle ACE$. What information do you need to conclude that $\Delta ADB \cong \Delta ACE$ using the ASA Congruence Theorem?



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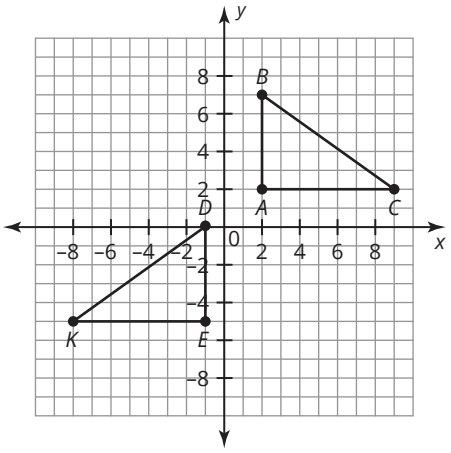
11. Analyze the triangles shown.



a. Danny determines that sides $\overline{DE}$ and $\overline{BA}$ are congruent. He also determines that $\angle A$ and $\angle E$ are congruent. He concludes that the triangles are congruent by the SAS Congruence Theorem. Is Danny correct? Explain your reasoning.

b. Use the SAS Congruence Theorem to determine if the two triangles are congruent.

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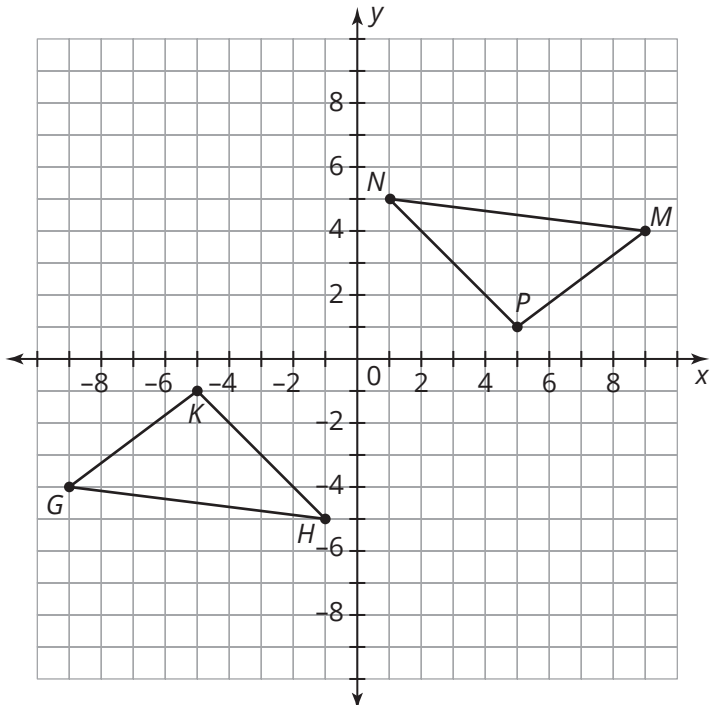
12. The image in this figure was formed by reflecting ΔGHK over the y-axis and then over the x-axis.

a. Determine the side lengths of each triangle.



b. Determine whether the triangles are congruent. If yes, justify with a congruence theorem. If no, explain why not.

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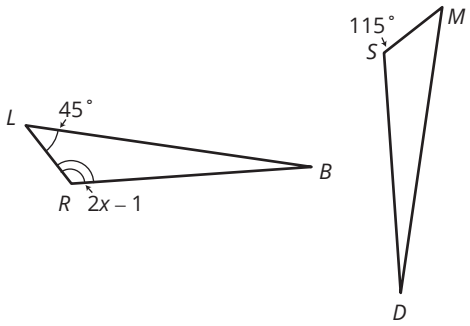
Part C: Griddable Response Questions

Record your answers and fill in the bubbles.

13. Use the given information and the diagrams shown to determine the value of x.

Given: $\Delta LBR \cong \Delta MDS$.



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	1	1	1	1	1	1	1
	2	2	2	2	2	2	2
	3	3	3	3	3	3	3
	4	4	4	4	4	4	4
	5	5	5	5	5	5	5
	6	6	6	6	6	6	6
	7	7	7	7	7	7	7
	8	8	8	8	8	8	8
	9	9	9	9	9	9	9

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