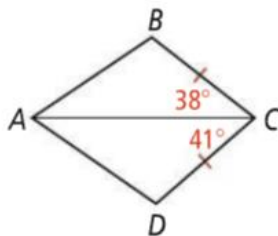


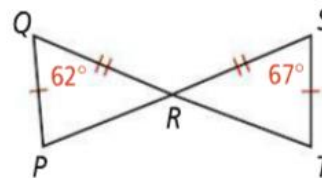
Write an inequality relating the given side lengths. If there is not enough information to reach a conclusion, write *no conclusion*.

See Problem 1.

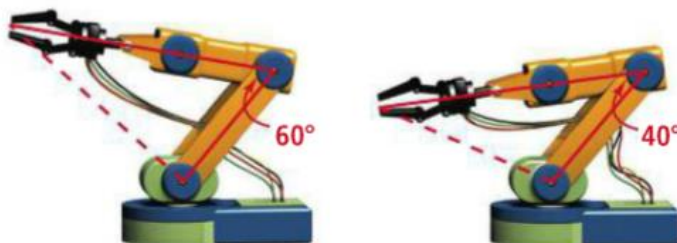
6.  $AB$  and  $AD$



7.  $PR$  and  $RT$

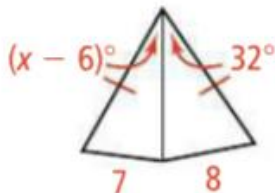


10. The diagram below shows a robotic arm in two different positions. In which position is the tip of the robotic arm closer to the base? Use the Hinge Theorem to justify your answer.

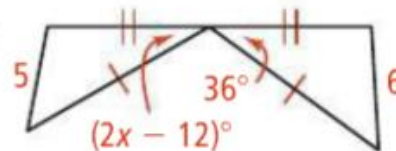


**Algebra** Find the range of possible values for each variable.

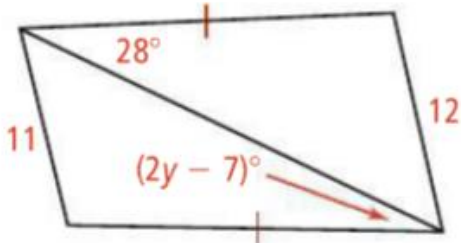
11.



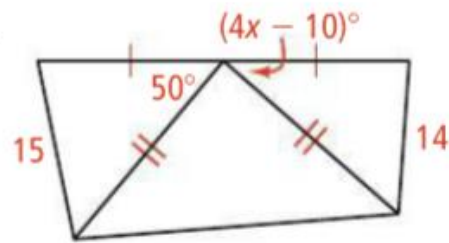
12.



13.



14.



- © 20. **Think About a Plan** Ship A and Ship B leave from the same point in the ocean. Ship A travels 150 mi due west, turns  $65^\circ$  toward north, and then travels another 100 mi. Ship B travels 150 mi due east, turns  $70^\circ$  toward south, and then travels another 100 mi. Which ship is farther from the starting point? Explain.

- How can you use the given angle measures?
- How does the Hinge Theorem help you to solve this problem?

