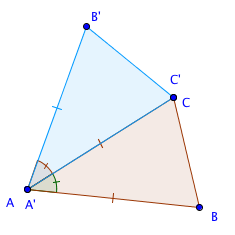
**Activity 2.3.3a Proving the Isosceles Triangle Theorem**

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**Fill in the blanks in this proof.**

Given ∆*ABC* with *AB* = *BC*

Prove *mABC= mACB*

*Step 1*. Reflect ∆*ABC* over line *AC*.

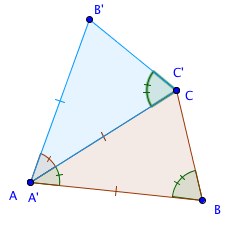
1. What is another name for point A? \_\_\_\_\_\_
2. What is another name for point C? \_\_\_\_\_\_

*Step 2*. In ∆*ABC* and ∆*ACB*’

3. *AB* = *AC* Why? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

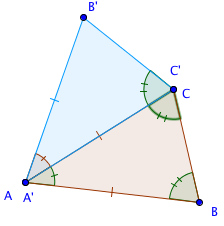
4. *AB* = *AB*’ Why? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. *AC = AB’* Why? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 6. *mBAC*= *mCAB’* Why? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*Step 3.* From lines 3, 4, and 6 above we can prove that ∆*ABC* and ∆*ACB’* are congruent, by the \_\_\_\_\_\_\_ Congruence Theorem.

*Step 4. mABC* = *mACB’* since corresponding parts of congruent triangles are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

*Step 5. mACB’* = *mACB* since reflections preserve \_\_\_\_\_\_\_\_\_\_\_\_\_measure.

*Step 6. mABC* = *mACB* by the \_\_\_\_\_\_\_\_\_\_\_ property of equality.