**Activity 2.7.1 Construction of an Equilateral Triangle**

**Construction**

Given: Line segment $\overbar{AB}$

To construct: An equilateral triangle with $\overbar{AB}$ as a side.

Steps in the construction:

1. Construct the circle with center *A* passing through *B*.
2. Construct the circle with center *B* passing through *A*.
3. Label one of the points where the two circles intersect at *C*.
4. Construct segments $\overbar{AC}$ and $\overbar{BC}$.

Claim: ∆*ABC* is equilateral.

**Proof**

1. *AB = AC* because radii of the same circle are congruent.
2. *AB = BC* because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. *AC = BC* because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. ∆*ABC* because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_