**Activity 2.7.8 Construction of an Angle Congruent to a Given Angle**

**Construction**

Given: $∠$*BAC* and ray $\vec{DE}$

To construct: an angle with $\vec{DE}$ as a side and congruent to $∠$*BAC*.

Steps in the construction:

1. Construct a circle with radius = *AB* and center *D*.
2. Label *F* the point where this circle intersects $\vec{DE}$
3. Construct a circle with radius = *AC* and center *D*.
4. Construct a circle with radius = *BC* and center *F*.
5. Label *G* one of the points where the last two circles intersect.

Claim: $∠$*FDG* $≅$$∠$*BAC*

**Proof**

Write your proof in the space below: