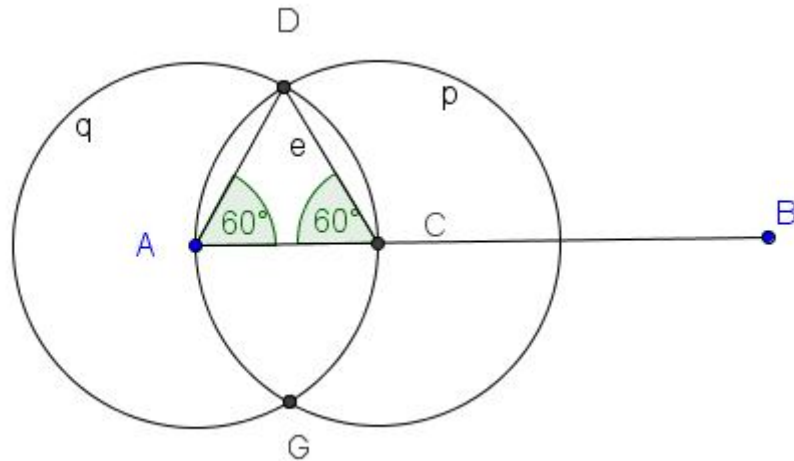# Student Activity Construction 18

Use in conjunction with the interactive file "Constr 18" on the Student's CD.

> Construction 18: To construct an angle of 60 degrees without using a protector or set square.

Note all the angles in an equilateral triangle are equal to 60° and an equilateral triangle can be constructed using only a compass and straight edge using a given line segment (i.e. construct intersecting arcs (or circles) of radius equal to length of line segment).

1. In the interactive file, what was given before any of the boxes were clicked?

   _____

   _____

2. With the help of the interactive file, list the construction protocol to make an angle of 60^0.

   _____

   _____

   _____

   _____

   _____

   _____

3. As you move the point A, what do you notice about the angle ACD?

   _____

   _____

   _____

4. As you move the radius slider, what do you notice about the angle ACD?

_____

_____

5. Why is angle ACD always 60^0?

_____

6. Does the length of the line AB have any impact on the construction? Explain.

_____

_____

_____

7. Does the length of the radius of the circle have any impact on the construction? Explain.

_____

_____

8. Explain why this construction method always gives 60^0.

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