**Activity 5.6.4 Constructing Tangents to a Circle from an Outside Point
(Optional)**

We will construct tangents to a circle from a point outside the circle.



1.Here is our task. We want to construct tangents to the circle centered at A from the point C.

a. To do this we need to look at a sketch of the final situation and think backwards! What do we know about the relationship between a radius and a tangent to the circle at the point of tangency?

b. They must form right angles. Using what we know from Thales’ Theorem, if we had a circle that permitted angle AEC to be inscribed in a semicircle, angle AEC would be a right angle. What might be a convenient segment for a diameter of the circle?

c. Where should the center of the circle be?

2. With these thinking backwards clues, you should be able to do the construction on our original diagram:



3.List the steps in your construction here.

4. Prove that $\overbar{CD}$ and $\overbar{CE}$ are tangent to circle A.