Basic Compass and Ruler Constructions 1

When doing compass and ruler constructions, we are using two tools:

- a compass, and
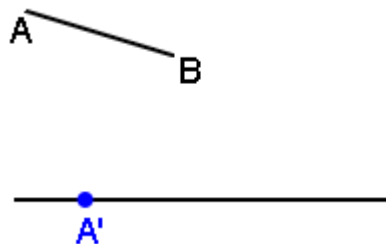- a straightedge (ruler).

With a *compass*, you draw circles. That means you can find **all the points that are at a specified distance from some point** (the circle's center point). Study carefully the following constructions, and pay attention how the compass is used!

A straightedge is a ruler without measurement units (such as cm or in) on it. It is simply used to draw straight lines. You can use your normal ruler as long as you don't pay attention to the measurement units on it. In the exercises of this lesson, <u>use only a compass and a straightedge</u>.

Copy a Line Segment

The task is to draw a copy of the line segment $\overline{AB}$, or in other words to draw another line segment of the same length. The copy of the line segment can reside anywhere.

Start out by drawing a long line somewhere, and drawing one point on it (A'). Now, how can you use a compass to find where the other end point B' should be, so that $\overline{A'B'}$ is congruent to $\overline{AB}$?

1. Copy the line segment.

2. Draw a line segment that is as long as these two line segments together.