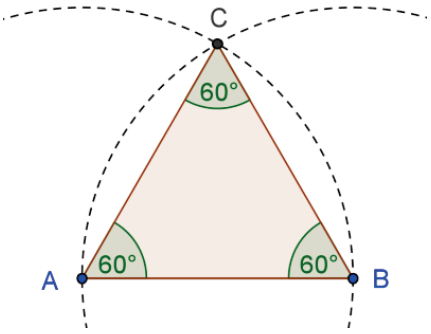
7. Equilateral Triangle Construction

Preparations



- Summarize the properties of an equilateral triangle before you start the construction.
  Hint: If you don't know the construction steps necessary for an equilateral triangle you might want to have a look at the following link to the dynamic worksheet "Equilateral Triangle Construction" http://www.geogebratube.org/student/m25909.
  Use the buttons of the *Navigation Bar* in order to replay the construction steps.
- Open a new GeoGebra window.
- Switch to *Perspectives* - *Geometry*.
- Change the labeling setting to *New Points Only* (menu *Options – Labeling*).

Introduction of new tools

	Circle with Center through Point **New!** Hint: First click creates center, second click determines radius of the circle.
	Show / Hide Object **New!** Hints: Highlight all objects that should be hidden, then switch to another tool in order to apply the visibility changes!
	Angle **New!** Hint: Click on the points in counterclockwise direction! GeoGebra always creates angles with mathematically positive orientation.

Hints: Don't forget to read the Toolbar help if you don't know how to use a tool. Try out all new tools before you start the construction.

Construction Steps

1		Create segment *AB.*
2		Construct a circle with center *A* through *B.* Hint: Drag points *A* and *B* to check if the circle is connected to them.
3		Construct a circle with center *B* through *A.*
4		Intersect both circles to get point *C.*

5		Create the polygon *ABC* in counterclockwise direction.
6		Hide the two circles.
7		Show the interior angles of the triangle by clicking somewhere inside the triangle. Hint: Clockwise creation of the polygon gives you the exterior angles!
8		Save the construction.
9		Apply the drag test to check if the construction is correct.

8. GeoGebra's Object Properties

Graphics View Stylebar

You can find a button showing a small arrow to toggle the *Stylebar* in the upper left corner of the *Graphics View*. Depending on the currently selected tool or objects, the *Stylebar* shows different options to change the color, size, and style of objects in your construction. In the screenshot below, you see options to show or hide the *axes* and the *grid*, adapt *point capturing*, set the *color*, *point style*, etc.

Hint: Each view has its own *Stylebar*. To toggle it, just click on the arrow in the upper left corner of the view.

Object Preferences Dialog

For more object properties you can use the *Preferences* dialog. You can access it in different ways:

- Click on the symbol on the right side of the Toolbar. Then choose *Objects* from the appearing menu.
- Right-click (MacOS: *Ctrl*-click) an object and select *Object Properties*...
- In the *Edit* menu at the top select *Object Properties…*
- Select the *Move* tool and double-click on an object in the *Graphics View*. In the appearing *Redefine* dialog, click on the button *Object Properties.*