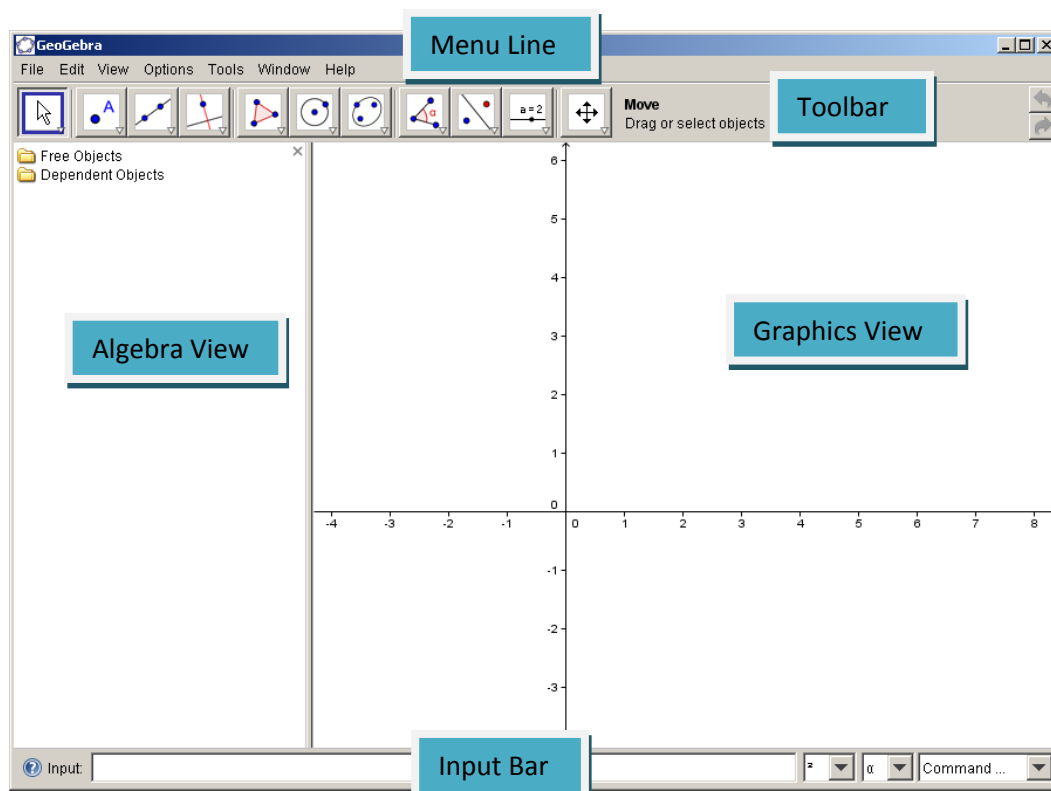


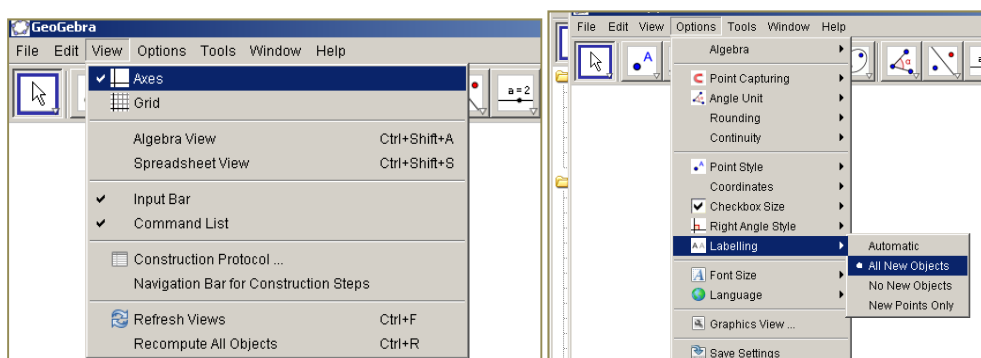
Geometry with GeoGebra

Introduction, the screen

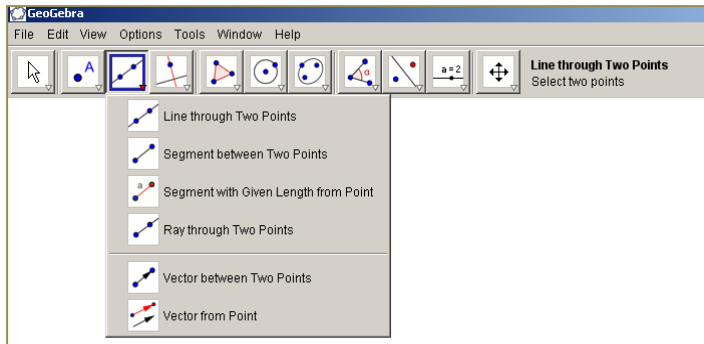
The GeoGebra screen is divided in several sections to represent mathematical objects in different ways. The names of the different parts are shown below.



Change the screen to be best fit for working with geometry: Press **View** on the Menu Line, and uncheck *Algebra View* and *Axes*.



To label the objects, on the Menu Line click **Options**, **Labeling**, **All New Objects**.

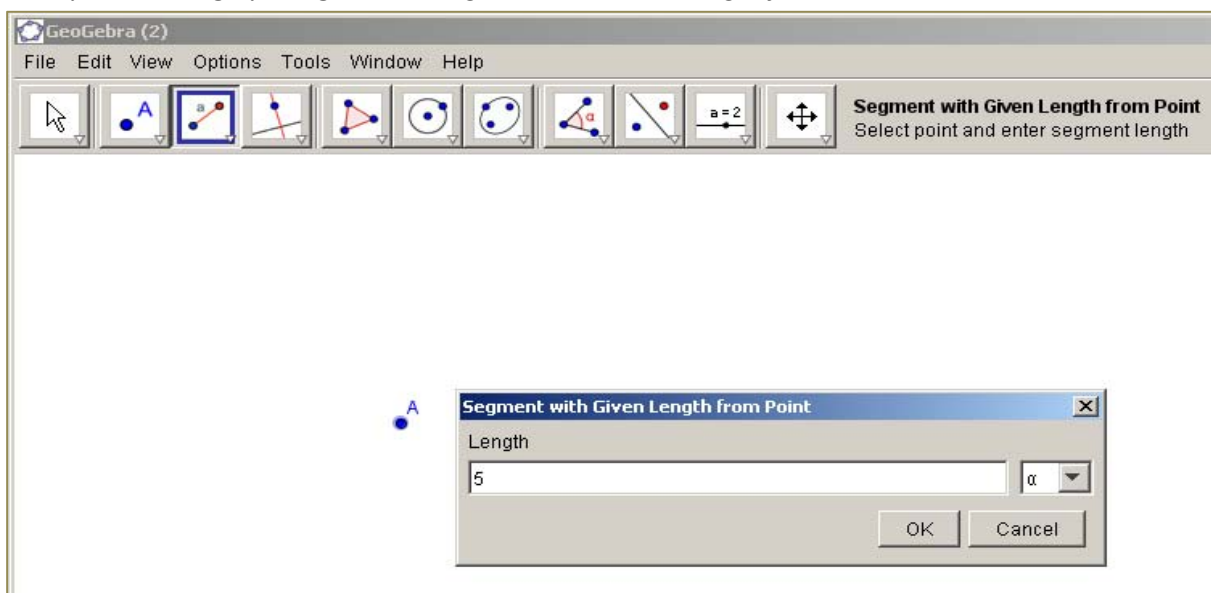


Drawing triangles

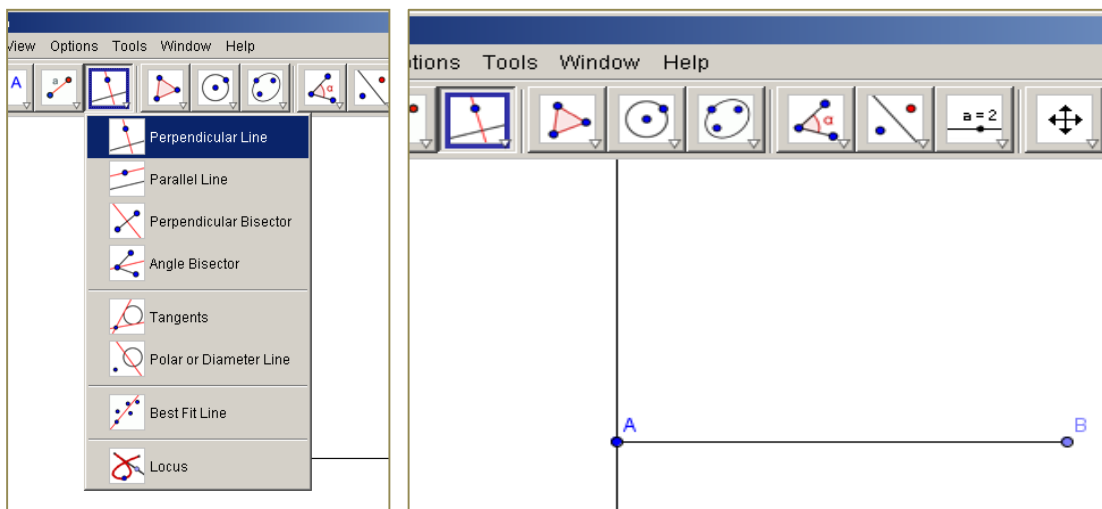
To get familiar with the tools most commonly used when drawing geometrical shapes you are going to draw a right-angled triangle where the length of one leg is 5 and the hypotenuse is 8.

All buttons on the Tool bar hide several related tools. You choose the tool you want to be active on a particular button by pressing the small arrow in the lower right corner of the button. Choose from the list that shows up.

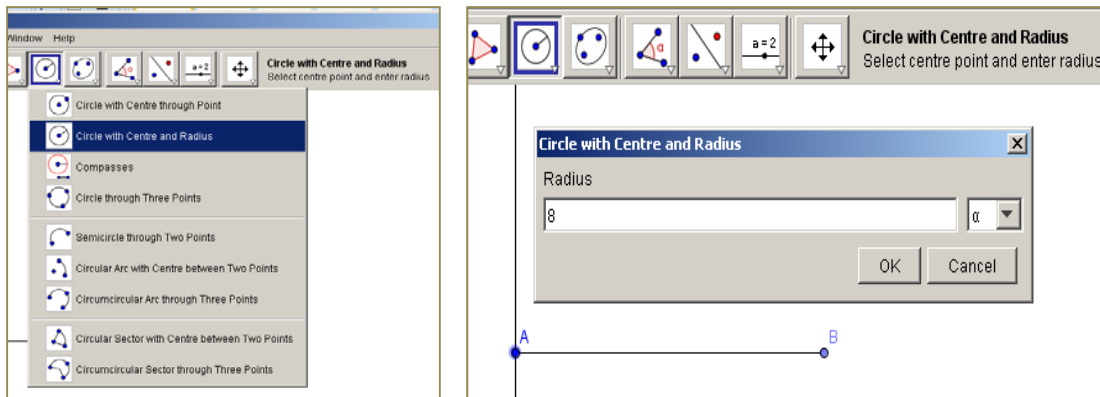
Start your drawing by using the tool *Segment with Given Length from Point*.



Continue by drawing the right angle. Do this by drawing a perpendicular line through point A. Choose the *Perpendicular Line* tool, click on point A first and then on the line.

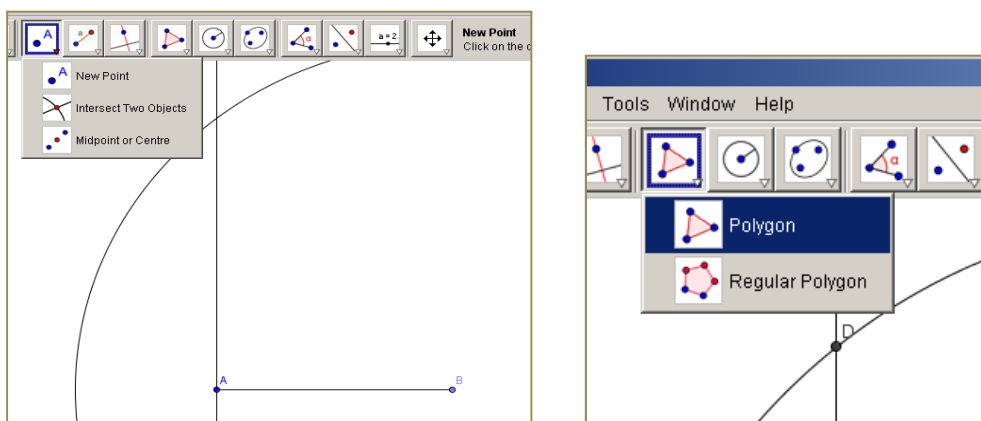


To place the third corner of the triangle you use one of the circle tools, *Circle with Centre and Radius*. Click on the point B, and fill in the length of the hypotenuse as radius.

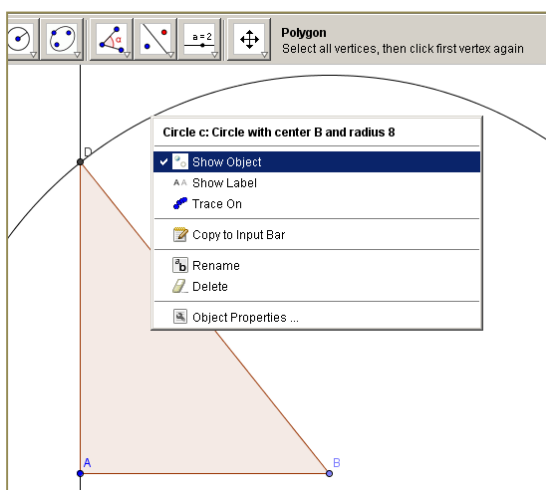


If the intersection between the perpendicular line and the circle is not shown in the Graphics View, use the Tool *Move Graphics View* until you see one of the intersection points. If you need to zoom, you find the *Zoom*-tools on the same button as the *Move Graphics View* -tool.

Choose the tool *Intersect Two Objects*, click on the circle and the perpendicular line. The point in the intersection is the third corner of the triangle.

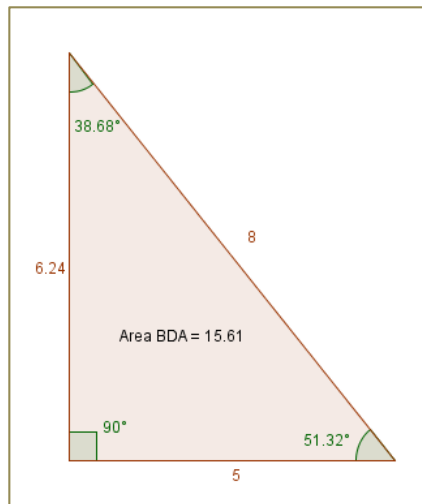
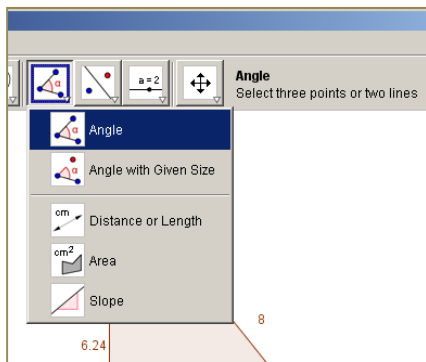
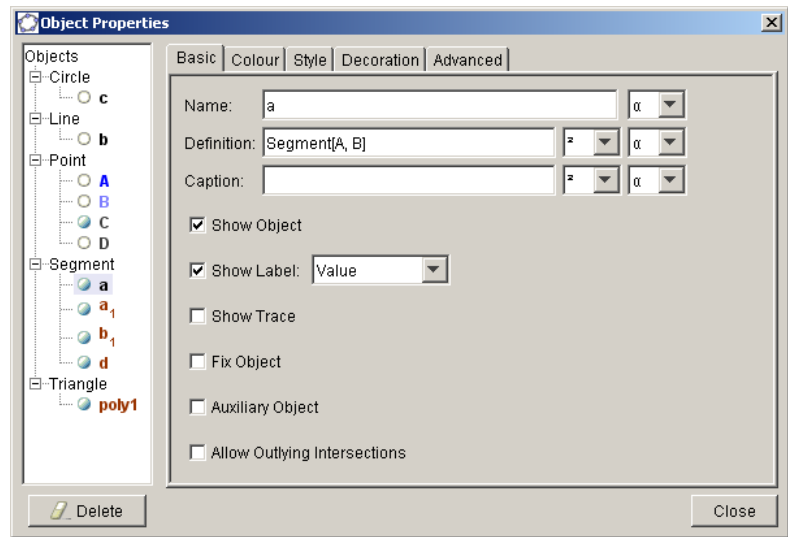
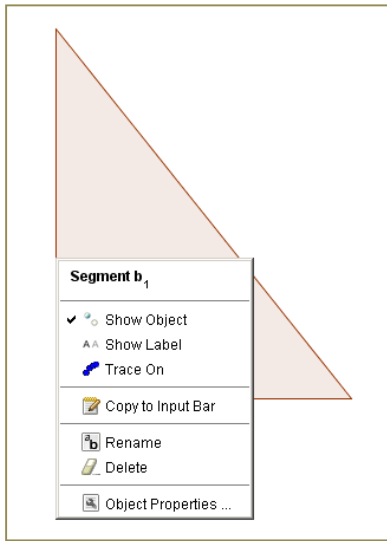


Draw the triangle by choosing the *Polygon* tool. You need to click all the corners and complete the circumference of the triangle, four clicks.

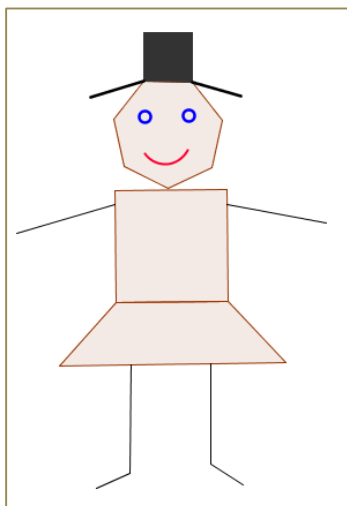


The perpendicular line and the circle, even the points do not need to be visible now, you only want to show the triangle. Hide an object by right-clicking the object, and uncheck *Show Object*.

The lengths of the sides in the triangle can be shown. Right-click one of the sides and choose *Show Properties* in the menu which shows up. Check the *Show Label*-field and choose *Value* from the Drop Down List.



To show the size of the angles use the *Angle* tool. Click on two sides in the triangle. To measure the angle between those two sides the order you press them should be against the clock. The area of the triangle can also be shown, use the *Area*-tool.



Exercise: Draw the shape shown here. Explore the tools and the Object Properties.