


GeoGebra Help: SSS

You can always undo mistakes. Hovering over a tool's icon will show some instructions.

To drag or select objects

To drag or select objects, use the *Move* tool. 

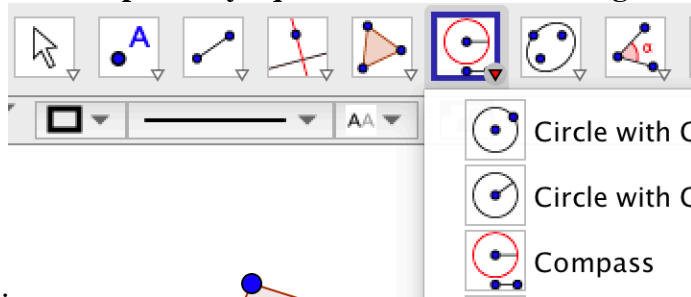
After using other tools, make a habit of going right back to the *Move* tool, which you can do by pressing the **escape** key.


To make a triangle

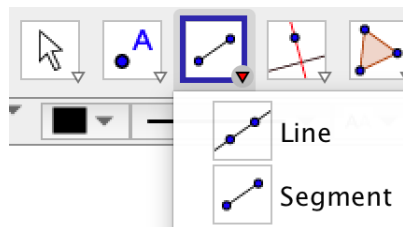
Use the *Polygon* tool. 

Click to make three vertices, and then click again on the first one to complete the triangle.

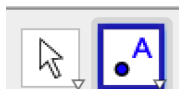
To make a triangle with sides respectively equal to those of an existing triangle (SSS)




1. Use the *Compass* tool.  Click on a side of the original triangle. You'll see a circle. Click somewhere away from the original triangle to select its center.



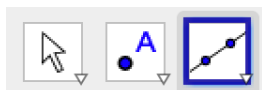
2. Use the *Segment* tool. Click on the center of the circle. Click on the circumference. You have copied one side of the original triangle. To confirm, change the length of that original side, and the copy should change automatically. To hide the circle (do not delete it!), right click it, and uncheck "Show Object".
3. Use the *Compass* tool twice to copy the other two sides. Center one circle at one end of your segment, and the other circle at the other end. Choose one of their intersections: that will be your third vertex.



4. Use the *Point* tool  and click at that intersection. (You'll know you're there when both circles are highlighted.) Hide the circles.
5. Use the *Polygon* tool, and click on your new point, then successively on the endpoints of the segment, then back on the new point. You have created an SSS triangle.
6. If you change the shape of the original triangle, the new triangle should also change.

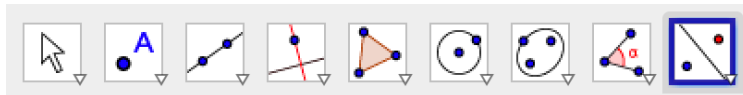
GeoGebra Help: Transformations

To make a line



Use the *Line* tool.

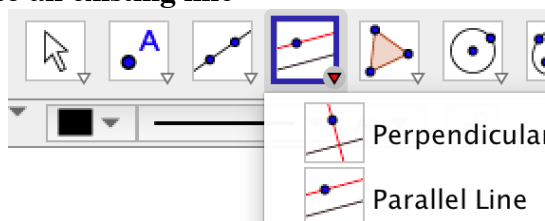
To reflect an object in a line



Use the *Reflect about Line* tool.

First click on the object, then click on the line.

To make a line parallel to an existing line



Use the *parallel line* tool.

Click on the existing line, and then click where you want the parallel.

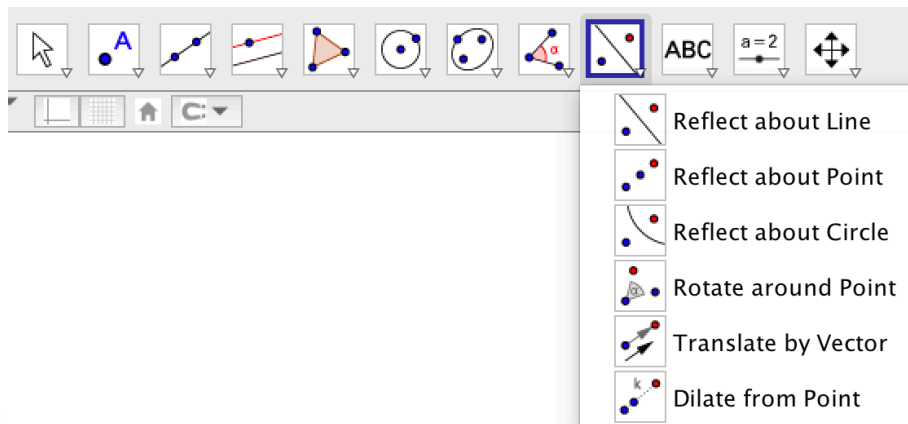
To explore the composition of two reflections in parallel lines

1. Create two parallel lines.
2. Create an asymmetric object, e.g. a quadrilateral, with the *Polygon* tool.
3. Reflect the object in one of the lines. Reflect the image in the other line.
4. Move the original object, and see what happens to the final image.

To explore the composition of two reflections in intersecting lines

Follow the same procedure, using two intersecting lines.

To use other transformations



Select the one you want

hover over the tool for further instructions. We will not use *Reflect about Circle*, or *Dilate from Point*.

To “prove” SSS, show that the triangles you made on the previous page are congruent. (In other words, that you can get from one to the other with a sequence of isometries.)