

## The Wheel of Theodorus

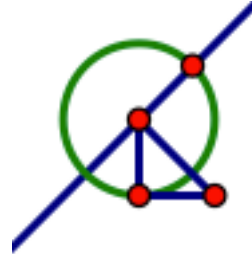
1. Using a ruler, draw an isosceles right triangle (oriented like the one to the right) with a base and height of 1 unit.



2. Use the hypotenuse of your first triangle as the base of your next triangle. Construct a line that is perpendicular to the hypotenuse through the highest vertex of the first triangle as shown.



3. Mark a point along that perpendicular line exactly 1 unit from the vertex through which it runs.



4. Connect the new point to the two points on the hypotenuse of the first triangle as shown.  
You have created a new right triangle.



5. Repeat steps 2 to 4, only this time use the hypotenuse of the new triangle as the base for the next one.



6. Continue building triangles in this manner. The hypotenuse of the previous triangle becomes the base of the next iteration, and the base remains consistent at 1 unit. Keep building until you are pleased with the image you have created.

