

Problems - HW 13

Tuesday, October 22

1. Suppose we are given a list of positive numbers whose sum is finite. The sum might be finite because there are only finitely many numbers or the numbers might be the terms of a convergent infinite series. When can we use these numbers as the side lengths of a polygon (potentially, with infinitely many sides) that is inscribed in a circle? Is the radius uniquely determined? If so, what is the radius as a function of the side lengths?

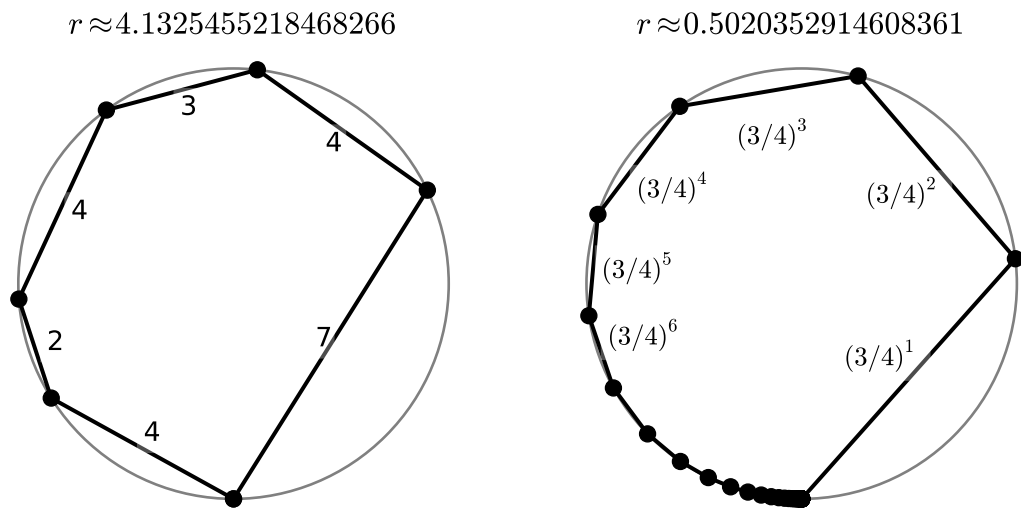


Figure 1: Two polygons (one with infinitely many sides) inscribed in circles