

Circles of radius R and r meet at two points. Two bugs are at one of the intersection points. Leaving at the same time, each bug crawls counterclockwise around one of the circles, each travelling at a constant rate so that they each complete one trip around the circle and arrive back at the starting point at the same instant. At each instant as the bugs crawl, the midpoint of the segment joining the bugs positions is plotted. Describe completely the graph produced by these midpoints.

