The main source of this thesis is the article *Sets with positive reach* by the German mathematician Prof. Dr. Victor Bangert from 1982. In this paper, Victor Bangert gives a characterization of sets with positive reach as subsets of connected Riemannian manifolds using weakly regular sublevel sets of functions, the class of which he introduces in his earlier article *Analytische Eigenschaften konvexer Funtionen auf Riemannschen Mannigfaltigkeiten* from 1979. The aim of this thesis is to study the above mentioned article from 1982 from Bangert and to give a detailed proof for the special case of the Riemannian manifold $\mathbb{R}^n$.

After the introductory chapter, where we shall get acquainted with Bangert's article and the aim of the thesis, the first chapter follows, in which we will introduce the basic notation and introduce some necessary knowledge and definitions. In the second chapter we shall deal with the sets with positive reach themselves, give some examples and their basic properties. In the third chapter we will take a closer look at the Bangert's class of functions, and in the fourth chapter we will characterize the sets with positive reach in $\mathbb{R}^n$.