Some of the most celebrated and famous problems in mathematics deal with finding integer or rational solutions to equations. Traditional methods of algebra and number theory have been successfully used over the years to solve these equations. Several non-traditional methods have also gained prominence during this time which have helped mathematicians solve these difficult problems. One such method involves lattices and their subsequent results due to German mathematician Hermann Minkowski.

In this talk we will look into this interesting area of number theory called the “Geometry of Numbers” that was initiated by Minkowski during the early 19th century. We will introduce the topic and then look at some standard results in number theory that will be validated using this technique.