

## ABSTRACT

Taxicab geometry is a non-Euclidean geometry proposed by Her-Mann Minkowski who is born in Russia and was Young Albert Einstein's teacher in Zurich. Taxicab geometry is the same as Euclidean in its basic structure. The points are the same, the lines are the same, and angles are measured the same way. Only the distance function is different. It is called " Taxicab geometry " because it mimics the distances that is Taxicab would have to drive in a city in which all streets run due north / south / east /west.

The minimum distance between two points is a straight line in Euclidean geometry. In Taxicab geometry there may be many paths all equally minimal that join two points. Taxicab distance between two points P to Q composed of line segment parallel and perpendicular to the x- axis.

In this report, we focus on Taxicab distance as an example of non-Euclidean space and compare it with Euclidean distance. The report consists of two chapters. In the first chapter, we define each of Euclidean distance and Taxicab distance, study the relation between them, show that each of one of them is a metric space, and give some real-life examples on Taxicab distance. In chapter two, we define each of the circle and the ellipse in each of Euclidean geometry and Taxicab geometry.