To be decided:

***Which company/city offers the better deal based on the number of miles traveled?***

I intend on comparing using a systems of equations approach:

|  |  |
| --- | --- |
| ***A NYC taxi cab company charges each person a flat fee of $5.00 plus an additional $.40 per quarter mile for its fare.*** | ***A Las Vegas taxi cab company charges each person a flat fee of $3.00 plus an additional $.60 per quarter mile for its fare.*** |

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**Step 1:**  I will write a linear equation of the form y1=mx+b for the New York City taxi company.  I will graph this equation on the xy-plane and label it as y1. I will **be sure to include a title on the graph and labels on the x- and y-axes.**

**Step 2:** I will write a linear equation of the form y2=mx+b for the Las Vegas taxi company.  I will then graph this equation on the same graph.  I will now have two lines on the same graph.  These will intersect.

**Step 3:** I will find the point of intersection for y1 and y2 algebraically. I will show my work and also plot this point on the graph.

**Step 4:** I will analyze which company offers a cheaper deal on taxi fares and under what conditions and I will tell at which value they are the same?

**Step 5:** If I travel and average of 20 miles per day, in which city am I going to spend the least amount of money on taxi fare?   What is the difference in price between the two companies' charges for 20 miles of travel?