Project #2 Name_____

Table of Market Research Data on Rental Demand
For Adult Bikes

Hourly Price	Number of hourly Rentals per day
$6.00	225
$7.00	200
$8.00	165
$9.00	120

Task 1

Step 1: On graph paper, plot the points for adult bikes.

Step 2: Using a "line of best fit", find the equation of the line. Pick two points that seem best. Write line in the $y = mx + b$ form, but use the variables $d = mp + b$ (d is for demand and p is for price)

Step 3: Plot the line on the graph paper.

Task 2

1. Record your equation from Task 1. _____

2. Use this equation to calculate the demand, d, at rental prices of $7.75 and $10.00 per day.

At p = $7.75, d = _____

At p = $10.00, d = _____

3. Use the values of d from above to find the revenue at the same prices. The equation for revenue (R) is R = price · demand, or $R = p \cdot d$.

So at p = 7.75, R = _____

At p = 10.00, R = _____

4. Substitute your expression for d from 1 above into the revenue equation to create an equation for R I terms of p.

R = _____

Now using this equation,

Find R(7.75) _____

Find R(10.00) _____

Task 3

1. Copy the equation from Task 2, Step 4, here,

R = _____

2. Find the R values using the given p values by substituting into the equation from 1 above.

P	
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

3. Plot points carefully on attached graph paper 2. This is a graph of revenue with respect to price.

4. "Read" off the graph for what price will revenue , R, be maximized?_____