Monopoly
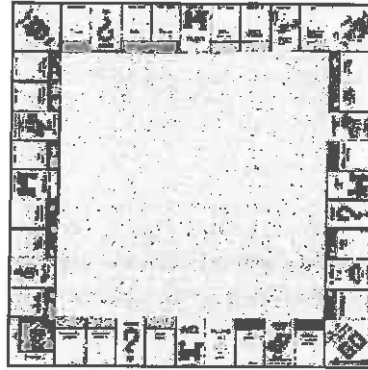
Name_____

It's summertime and there is more time for play. As you while away your days, will you be playing board games? Is your intuition about what to own on the monopoly board accurate?

Let's find out.

Property:	Spaces from Go	Cost of Property	Rent	Rent with 1 House	Rent with 2 Houses	Rent with 3 Houses	Rent with 4 Houses	Rent with Hotel
Mediterranean Ave	1	$60	$2	$10	$30	$90	$160	$250
Baltic Ave	3	$60	$4	$20	$60	$180	$320	$450
Oriental Ave	6	$100	$6	$30	$90	$270	$400	$550
Vermont Ave	8	$100	$6	$30	$90	$270	$400	$550
Connecticut Ave	9	$120	$8	$40	$100	$300	$450	$600
St. Charles Place	11	$140	$10	$50	$150	$450	$625	$750
States Ave	13	$140	$10	$50	$150	$450	$625	$750
Virginia Ave	14	$160	$12	$60	$180	$500	$700	$900
St. James Place	16	$180	$14	$70	$200	$550	$750	$950
Tennessee Ave	18	$180	$14	$70	$200	$550	$750	$950
New York Ave	19	$200	$16	$80	$220	$600	$800	$1,000
Kentucky Ave	21	$220	$18	$90	$250	$700	$875	$1,050
Indiana Ave	23	$220	$18	$90	$250	$700	$875	$1,050
Illinois Ave	24	$240	$20	$100	$300	$750	$925	$1,100
Atlantic Ave	26	$260	$22	$110	$330	$800	$975	$1,150
Ventnor Ave	27	$260	$22	$110	$330	$800	$975	$1,150
Marvin Gardens	29	$280	$24	$120	$360	$850	$1,025	$1,200
Pacific Ave	31	$300	$26	$130	$390	$900	$1,100	$1,275
North Carolina Ave	32	$300	$26	$130	$390	$900	$1,100	$1,275
Pennsylvania Ave	34	$320	$28	$150	$450	$1,000	$1,200	$1,400
Park Place	37	$350	$35	$175	$500	$1,100	$1,300	$1,500
Boardwalk	39	$400	$50	$200	$600	$1,400	$1,700	$2,000

1. On a separate piece of graph paper, create a scatter plot comparing the number of spaces a property is from GO and the cost to an opponent for rent with a hotel for that property.

2. Find the average x–coordinate on the graph and the average y–coordinate on the graph. Plot this point on your scatter plot.

3. Draw a line of best fit through the data points. Your line should go through the average (x, y) point from the previous problem.

4. Are there any points that seem to be outliers? Does the game seem to have properties that are possibly under or overvalued?

5. According to your line, what would be a more appropriate or fair cost for landing on Boardwalk with a hotel on it?

6. Two new properties are to be added to a newer version of the game. They are to be placed at the 35th and 36th spaces on the board. According to your line, what should be the cost for landing on these spaces when they occupy a hotel?

7. The new Obama Ave costs about $700 for landing on it with hotel. How many spaces from GO is it?

8. The board is to be enlarged and several more spaces are added. Using your line find the cost of Wheeler Road at the 46th space and Room 230 at the 48th space.

9. Write an equation that gives the cost of landing on a space with a hotel on it for any number of spaces from GO in $y = mx + b$ form.

10. Using the same grid make one additional scatter plot comparing any column of information about the Monopoly properties and the number of spaces from zero. Draw a line of best fit and write an equation to model the situation. Are there any outliers for this relationship? Explain.