Name: _____ Algebra
Date: _____ Unit 12
Class: _____ HW 12-3

1)

Weight (1000's of lbs)	3.7	4.5	3.2	5.1	6.8	4.9	4.8	5.5
Mileage (miles per gallon)	38	26	48	24	18	30	28	21

The table shows the fuel efficience of a car and also the weight of the car. Find the equation of the line of best fit using the calculator rounding both the slope and y-intercept to the nearest tenth.

2) Using the equation you found in #1, find the difference in fuel efficiency between a car that weighs 3.7 (thousands of pounds) and a car that weighs 5.2 (thousands of pounds).

3)

Elevation (feet)	1200	4125	6230	2378	5625	6328	4375	1864	3160
Mean Temperature (°F)	62	45	36	51	48	32	40	58	49

The table shows the average temperature compared to the elevation above sea level. Using the calculator find the correlation coefficient. What does this tell you about the causation of the data?

4)

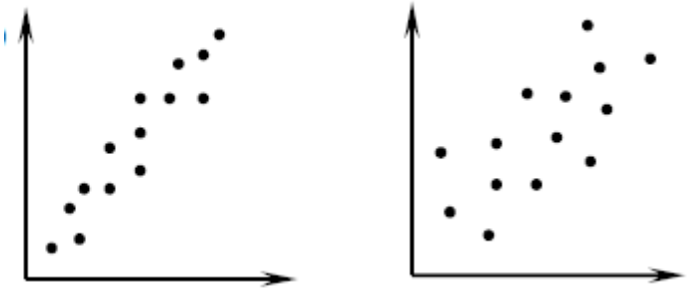
x, days	0	1	3	4	6	7
y, cases	16	18	22	25	33	35

Create a scatter plot for this data. Which would be the most useful type of regression to use based on the shape of the graph?

5) Create an exponential regression for the data in #4 using the calculator. Round all answers to the nearest tenth. What percent do the number of cases appear to be increasing each day?

6) Using your equation for #5, how many cases would there be expected to be on the 11^{th} day?

7) Which of the following would have a stronger positive correlation?



8)

x	2	5	8	11	15	18
y	52	47	28	32	25	10

Find the equation of the line of best fit using the above data.