1. The table shows data about the wavelength (meters) and the wave speed (m/s) of deep water ocean waves.

Wavelength	Wave Speed
3	6
5	16
7	31
8	40

a. Make a scatter plot using the graphing calculator. Sketch what you see on the screen.

b. Find a linear regression equation and graph it along with the scatter plot. Does this line appear to be a good fit?

c. Find a quadratic regression equation and graph it along with the scatter plot and the linear regression equation. Which equation appears to be a better fit?

d. Use the equation to predict the wave speed if the wavelength is 12 meters.

2. Make a scatter plot of this data.

Speed (x) mph	30	40	50	60	70
Stopping distance (y) ft	25	55	105	188	300

a. Does this data appear to require a linear regression or a quadratic regression?

b. Find the appropriate equation and use it to find the stopping distance for a speed of 75 mph.

3. Make a scatter plot of the data below. Sketch the scatter plot, labeling the axes.

Years since 1988	0	2	4	6	8	10
Avg House Price (thousands of dollars)	165	154.5	124.5	115	128	165

a) Find a regression equation to model this data. Round to the nearest hundredth.

EQ:

b) Find the average price of a house in 1985. Round to the nearest dollar.

c) Find the average price of a house in 2000. Round to the nearest dollar.

1. The table shows data about the wavelength (meters) and the wave speed (m/s) of deep water ocean waves.

Wavelength	Wave Speed
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1. Make a scatter plot using the graphing calculator. Sketch what you see on the screen.

2. Find a linear regression equation and graph it along with the scatter plot. Does this line appear to be a good fit?

It looks ok, it comes close to all pts. $y = 6.80x - 15.83$

3. Find a quadratic regression equation and graph it along with the scatter plot and the linear regression equation. Which equation appears to be a better fit?

$y = .59x^2 + .34x - .33$

4. Use the equation to predict the wave speed if the wavelength is 12 meters.
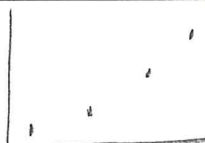
using Linear $\quad y = (65.7)$
using quad $\quad y = 88.71$

Quadratic is a better fit since it passes through all four points

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2. Make a scatter plot of this data.

Speed (x) mph	30	40	50	60	70
Stopping distance (y) ft	25	55	105	188	300

a. Does this data appear to require a linear regression or a quadratic regression?

Quad regression

b. Find the appropriate equation and use it to find the stopping distance for a speed of 75 mph.

$y = .14x^2 - 7.24x + 116.74$

361.24 feet

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3. Make a scatter plot of the data below. Sketch the scatter plot, labeling the axes.

Years since 1988	0	2	4	6	8	10
Avg House Price (thousands of dollars)	165	154.5	124.5	115	128	165

a) Find a regression equation to model this data. Round to the nearest hundredth.

EQ: $y = 1.83x^2 - 19.55x + 172.73$

b) Find the average price of a house in 1985. Round to the nearest dollar.

$x = -3$ \qquad \$247,850

c) Find the average price of a house in 2000. Round to the nearest dollar.

$x = 12$ \qquad \$201,650