Advanced Math

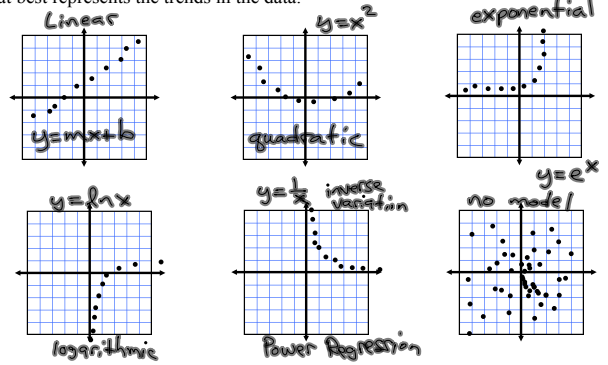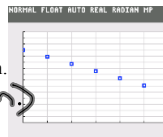### 1-7
(Day 2)
Regressions and Modeling

Examine the following scatterplots of data. Try to find a mathematical model that best represents the trends in the data.

Linear $y=x^2$ exponential

$y=mx+b$ quadratic

$y=\ln x$ $y=\frac{1}{x}$ inverse variation $y=e^x$ no model

logarithmic   Power Regression

---

75) An experiment in a physics lab requires a student to measure the compressed length x (in centimeters) of a spring when a force of F grams is applied. The data is given in the table.

F	0	50	100	150	200	250	300
x	12.00	10.85	9.72	8.49	7.35	6.10	4.84

a) Make a scatter plot of the data.

NORMAL FLOAT AUTO REAL RADIAN MP

b) What type of equation best models the information given.

$y=mx+b$ (linear regression)

c) Find a mathematical model for the data.

$y=-.0238x+12.051$

d) Use the model to approximate the force required to compress the spring 9 cm. output $128.111 g$

Assignment:
  pg. 195
76, 77, 91, 92.