

LINEAR REGRESSION WORKSHEET #1



Name _____ Date _____ Period _____

1. A convenience store manager notices that sales of soft drinks are higher on hotter days, so he assembles the data in the table.

(a) Make a scatter plot of the data.

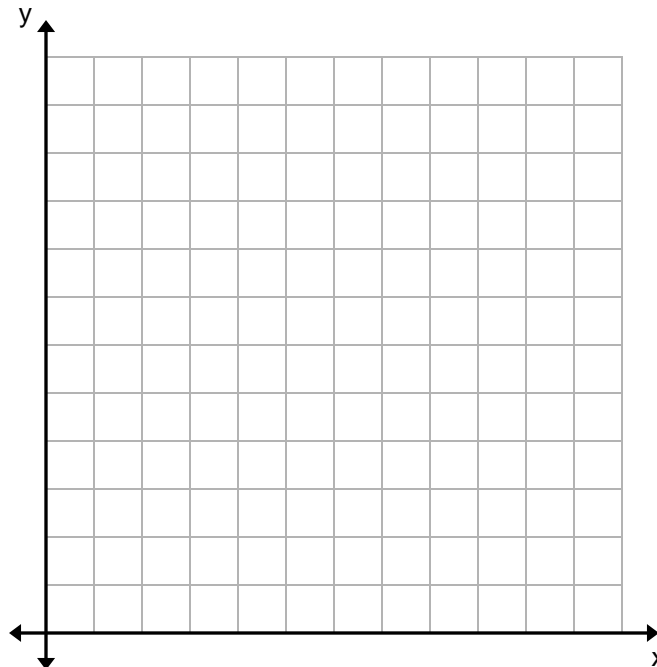
(b) Find and graph a linear regression equation that models the data.

High Temperature ($^{\circ}$ F)	Number of cans sold
55	340
58	335
64	410
68	460
70	450
75	610
80	735
84	780

Equation: _____

(c) Use the model to predict soft-drink sales if the temperature is 95° F.

(d) Using the scatterplot, describe the association you see between the two variables. Make sure to mention form, direction and strength.



2. Anthropologists use a linear model that relates femur length to height. The model allows an anthropologist to determine the height of an individual when only a partial skeleton (including the femur) is found. In this problem, we find the model by analyzing the data on femur length and height for the ten males given in the table.

(a) Make a scatter plot of the data.

(b) Find and graph a linear regression equation that models the data.

Femur Length (cm)	Height (cm)
50.1	178.5
48.3	173.6
45.2	164.8
44.7	163.7
44.5	168.3
42.7	165.0
39.5	155.4
38.0	155.0

Equation: _____

(c) An anthropologist finds a femur of length 58 cm. How tall was the person?

(d) Using the scatterplot, describe the association you see between the two variables. Make sure to mention form, direction and strength.

