

Long Term Assignment #3

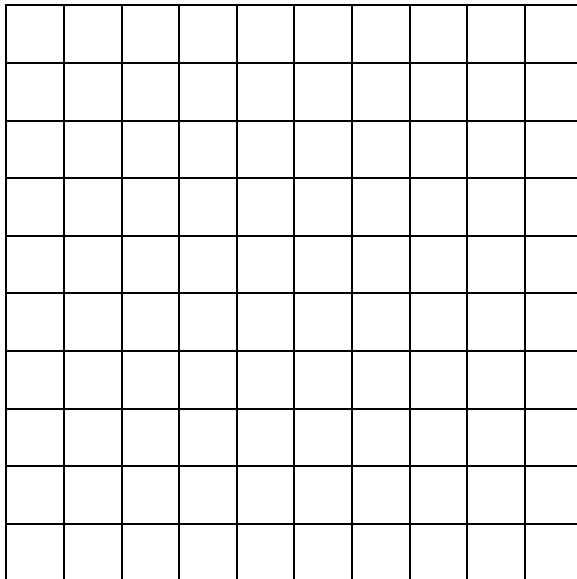
- 1** The table below gives data from tests of a full-size bungee jump.

Jumper Weight (in pounds)	100	125	150	175	200
Stretched Cord Length (in feet)	50	55	60	65	70

- a. Which variable does it make sense to consider independent and which dependent?

(2 points)

- b. Plot the given data on a coordinate graph.

(3 points)

- c. Use the pattern in the table or the graph to estimate the stretched cord length for jumpers who weigh:

i. 85 pounds

ii. 135 pounds

iii. 225 pounds

(1 Point Each)

d. Would it make sense to connect the points on your data plot? Explain your reasoning.

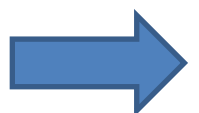
(2 points)

e. Describe the overall pattern relating *stretched cord length* L to *jumper weight* w .

(3 points)

f. The technician who did the tests suggested that the pattern could be summarized with a symbolic rule $L = 30 + 0.2w$. Does that rule give estimates of stretched cord length that match the experimental data? Explain.

(2 points)



2 To help in estimating the number of customers for an amusement park bungee jump, the operators hired a market research group to visit several similar parks that had bungee jumps. They recorded the number of customers on a weekend day. Since the parks charged different prices for their jumps, the collected data looked like this:

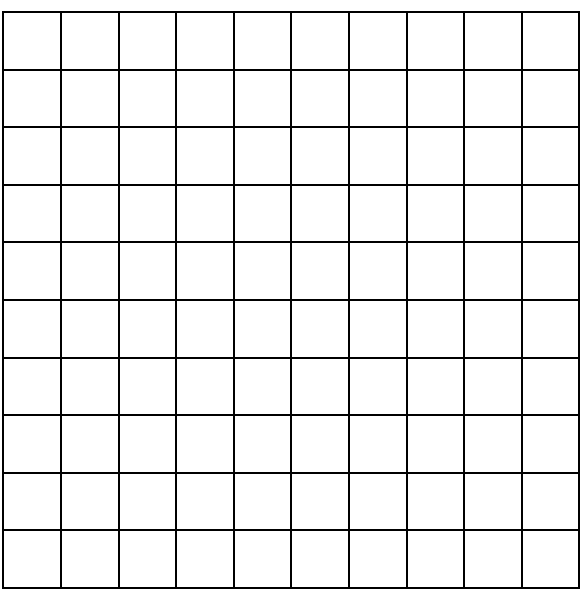
Price per Jump (in dollars)	15	20	25	28	30
Number of Customers	25	22	18	15	14

a. In this situation, which variable makes sense as the independent variable and which as the dependent variable?

(2 points)

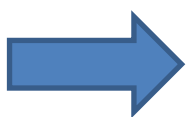
b. Plot these data on a coordinate graph.

(3 Points)



c. Does it make sense to connect the points on your data plot? Explain your reasoning.

(2 points)



d. Use the pattern in the table or the graph to estimate the *number of customers* if the *price per jump* is:

i. \$18

ii. \$23

iii. \$35

**(1 point
each)**

e. Describe the overall pattern of change relating *price per jump* to *number of customers*.

(3 points)

f. The market research staff suggested that the pattern could be summarized with a rule $n = 35 - 0.7p$. Does that rule produce estimates of number of customers n at various prices p like those in the survey data?

(1 point)