Barbie Bungee Lab

Directions: Your job is to design a bungee jump ride for Barbies. You will be given rubber bands, measuring tape or yard stick, and a Barbie test subject. You will have 30 minutes to "research" and experiment (while answering the questions on the lab sheet) to make generalizations. Then, the length of the final jump will be announced. You will have 5 minutes to choose a bungee length. We will take the Barbies to the test location – the group to give her the ride of her life without breaking her neck wins ☺.
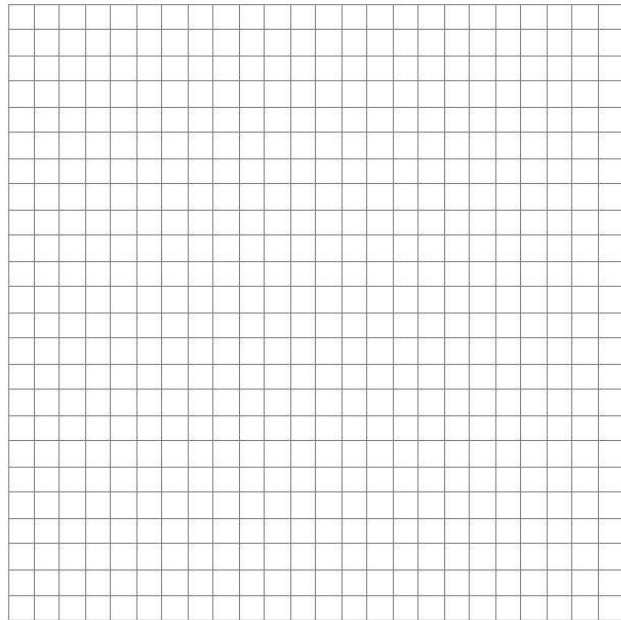
Explanatory variable: _____   Response Variable: _____

Points to plot (x, y)   Scatterplot

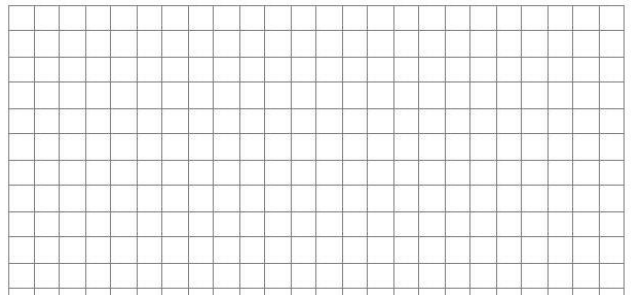| *x*	*y*

Describe the association:

Residual Plot:

Correlation Coefficient: _____

Linear regression equation:_____

     Interpret slope & y-intercept

State and interpret the R^2

Answer the following questions to make predictions.

1. Use your equation to determine what distance Barbie would fall using 50 rubber bands.

2. Use your equation to determine how many rubber bands you would need to use to have Barbie plunge to a distance of 150 inches.

3. Barbie wants to bungee off the Eiffel Tower. It is 986 ft tall. How many rubber bands will you need so Barbie just brushes her hair (hopefully not her head) on the ground? How confident are you in your prediction?

4. A location for a final bungee jump will be specified by Mrs. Braun Paliszewski. Use your equation to determine the number of rubber bands needed to give Barbie the greatest thrill in this bungee jump. This means she should come as close as possible to the ground WITHOUT hitting her head. Show your calculations below. We'll test your calculations in the Barbie Bungee Contest!

Barbie will be bungee jumping _____
(watch your units!)

5. How confident would you feel about using the same calculations for a "Ken" doll? Why?

6. If you were to repeat this experiment, what would you do differently? Why?