***STA 251***

***Mini-Project #1***

***Barbie Bungee***

Guidelines: All parts of this mini-project are due by the start of class on Tuesday, September 15th. This can either be submitted within a folder with all parts neatly organized or in one file via email. All work should be shown. Organization and presentation will factor into the grade.

Directions

Using a Barbie Doll (or similar toy if you prefer) you will collect data of how far Barbie would fall using a rubber band bungee cord. You will be recording the drop length based on the number of rubber bands used. You will want to be as accurate as possible, so taking multiple measurements and getting averages is strongly suggested. You should take several photos and at least one short video of the data collection. (10 points)

Using your data, you need to make an Excel graph. Label it properly. Display the formula which best fits your data and the correlation.

(10 points)

On the due date, we will go to an undisclosed location. You will be given the height to drop Barbie from. You will have 10 minutes to determine how many rubber bands you will need and build your bungee. You will then drop Barbie from the height and try to get as close to the ground without touching it. (30 points)

Grades will be determined as follows:

Safe perfect bungee (within 1 foot of ground) – 30 points

Safe close bungee (within 1 – 3 feet off ground) – 20 points

Safe not close bungee (within 3 – 6 feet off ground) – 10 points

Safe bungee (over 6 feet off ground) – 0 points

Unsafe bungee with minor injury – 20 points

Unsafe bungee with major injury – 10 points

Unsafe bungee resulting in death – 0 points