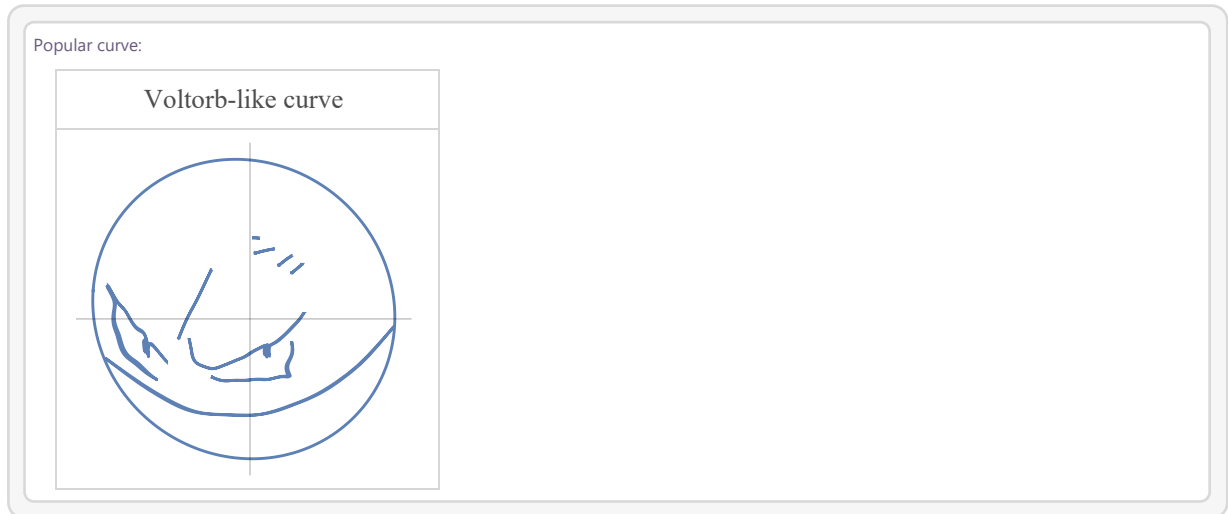


Pokémath: Group Work 8

Name _____,



Look out! Voltorb are stampeding all around the city! They've rolled into town like tumbleweeds and refuse to get out of the way for any of the trainers trying to get into the gyms! The Pokémon® emergency response team is trying to gather up all the Voltorb and get them back to their natural habitat, but they're having trouble. Some Voltorb are short enough to slip through the nets, while some are too heavy to haul in the trucks. Others are very strong and are zapping anyone who gets too close!

As trainers, we can help by finding how the characteristics of a Voltorb are related to each other. That way the emergency response team can have an informed strategy for dealing with shorter/taller, lighter/heavier, and stronger/weaker Voltorb.

In this activity we will work with Excel to compute averages (means), standard deviations and correlations. The data we will use is found in the file named "GW8 Excel.xlsx". In that file you will find data pertaining to the Voltorb sighted all around town. The table's data consists of 6 columns and 53 rows. Each row is information for a single Voltorb, while the columns are: 1. number label to distinguish each Voltorb, 2. CP, 3. Weight, 4. Height, 5. HP, 6. the amount of stars each Voltorb has based on their IVs.

1) Use the excel built-in functions to compute the average (mean) and standard deviation of the following:

- a) CP
- b) Weight

- c) Height
- d) HP
- e) Stars

2) Using Excel formulas, create a new column where each entry is given by $\frac{1}{\text{Weight}}$.

3) Use the excel built-in function for correlation to compute the correlation for each of the following data pairs:

- a) Height vs Weight
- b) HP vs CP
- c) Stars vs CP
- d) Height vs $\frac{1}{\text{Weight}}$
- e) Height vs CP

4) Make a scatter plot with a trendline for the following data pairs.

- a) Height vs Weight
- b) HP vs CP
- c) Stars vs CP
- d) Height vs $\frac{1}{\text{Weight}}$
- e) Height vs CP

5) What can you say about the data pairs based on their correlation? Are they likely to be proportional to each other, inversely proportional, or not related at all?

6) One can use the excel formula for average to compute the average of the new column created in question 2. If we denote this average as B and we denote the average of the Weight column as A, is it true that we always have $AB = 1$? Explain briefly why, yes or no.