Name: _____ Date: _____

Heights of Students at a Large High School

Background:

Our class will help judge a contest held at a particular high school. This school held a contest in which they selected students at random from a classroom and reported their heights.

They gave all of the students the data for the first 20 selected students (but you will not see these data!).

Each student was asked to predict the heights of the last 10 students. Here is the catch: **students were allowed to give only ONE number that had to be used to predict all 10 heights.**

Three student teams made predictions about the height of the last 10 students. The judges of this contest want you to tell them how they should determine the winner.

Instructions:

1. Your team's job is to determine the winning team, the team that came in second place, and the team that came in third place. Your team must come up with two things:
    a. You must support your choice of a winner by using a **rule** for calculating a total score for each team. The rule must be applied to each team's guess to determine their placement and your team must be able to explain how your rule helped select the winner.
    b. You must write instructions to the judges that explain how to use your rule to select a winner. For example, do they choose the team with the largest score? The smallest?
2. Each team's predictions are provided here, along with related plots (see page 2) for your reference.
3. Answer the questions that follow each of the plots.

Team Predictions:

Team A: 69 inches
Team B: 70 inches
Team C: 66 inches

Table of Prediction and Actual Outcomes:

Prediction of Team A	Prediction of Team B	Prediction of Team C	Plot A Heights	Plot B Heights
69	70	66	63	74
69	70	66	69	72
69	70	66	65.5	67.5
69	70	66	63.6	67
69	70	66	69	70
69	70	66	74	73
69	70	66	66	73
69	70	66	70	63
69	70	66	80	67
69	70	66	68	71.5

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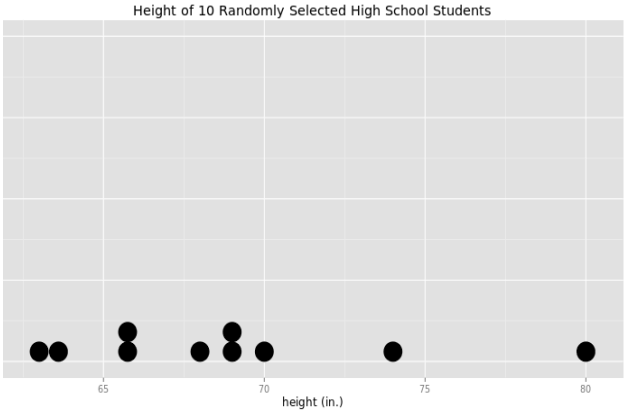
Plot A:



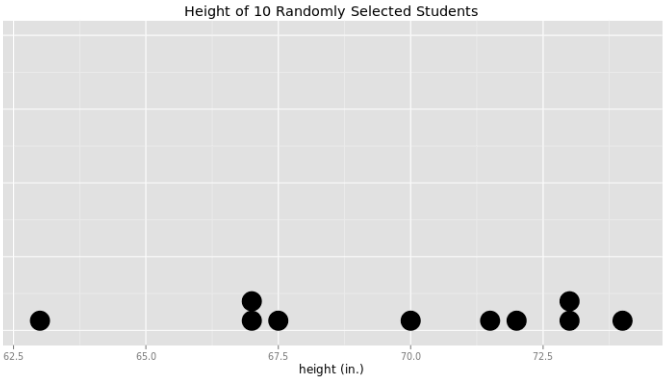
The heights represented in this dotplot are:

63, 69, 65.5, 63.6, 69, 74, 66, 70, 80, 68

In your team, answer the following question, and record your team's response in the space below:

Based on these 10 data points, which team would you select as the winner? Record your rule and write a description for the judges.

Plot B:



The heights represented in this dotplot are:

74, 72, 67.5, 67, 70, 73, 73, 63, 67, 71.5

In your team, answer the following questions and record your team's response in the spaces below:

Based on these 10 data points, which team would you select as the winner?

Is the winner the same as the one you chose before? Explain.

Did your rule (method) for determining the winner change or did it remain the same? If it changed, explain why.