

Name: _____

Date: _____

Prediction Games

Rules:

You are allowed to use just one value for each game, and your value should be based on the data. The **mean squared deviation** rule says: Your score is determined by finding the average of the squared differences between your guess and the actual values. The winner is the team with the lowest mean squared deviation. For each of the games below, try the provided statistics and determine which one works best.

Game 1

Predict the heights of 10 randomly chosen people.

Remember: You must choose just one statistic to use as a prediction from this list:

Summary (heights in inches)					
Minimum	1 st Quartile	Median	Mean	3 rd Quartile	Maximum
64.20	66.40	67.76	68.22	69.13	73.15

Outcomes: here are the actual heights that were selected – 66, 67, 73, 68, 68, 73, 69, 64, 66, 67.

Which of these numbers did best? Compare your score using the mean squared deviations.

Game 2

Predict the number of steps, as counted by a FitBit, this person will take in the future. Choose your prediction from these values:

Summary (daily steps)					
Minimum	1 st Quartile	Median	Mean	3 rd Quartile	Maximum
0	0	4370	7708	13220	27900

Outcomes: here are the actual daily steps that this person took – 0, 27903, 6044, 0, 0, 17436, 2697, 14944, 8060, 0.

Which of these numbers did best? Compare your score using the mean squared deviations.

Game 3

Predict the number of minutes it took 10 randomly selected teenagers to run the Cherry Blossom 10 Mile Race in Washington, DC. Choose your prediction from these values:

Summary (race in minutes)					
Minimum	1 st Quartile	Median	Mean	3 rd Quartile	Maximum
70.52	73.95	85.28	90.87	102.10	123.30

Outcomes: here are the actual race times of the teenagers – 74, 123, 121, 103, 75, 72, 85, 71, 86, 101.

Which of these numbers did best? Compare your score using the mean squared deviations.

Using the mean squared deviations, which team is the winner and which teams placed second and third? Discuss which statistic made the best predictions in all three games.