

Name: _____
MATH 108
Fall 2023
HW 10: Due 10/24

“Think of how stupid the average person is, and realize half of them are stupider than that.”

– George Carlin

Problem 1. (10pt) Crybaby Cannon and Buzz Sawyer are amazing wrestlers in their leagues. They are arguing about who is the better wrestler. The win percentages for both players' league are normally distributed. The average win percentage for The Cannon's league is 72.4% with standard deviation 6.2%. The average win percentage for The Buzz's league is 81.5% with standard deviation 2.1%. Crybaby has won 88.5% of his matches, while Buzz has only won 87.6% of his matches.

- (a) Give an argument why Crybaby Cannon could be considered the better wrestler.
- (b) Give an argument why Buzz Sawyer could be considered the better wrestler.

Problem 2. (10pt) Let D be a distribution such that $D \sim N(67.2, 4.7)$. Suppose that X is a random value sampled from the distribution D . Showing all your work, compute the following:

- (a) $P(X < 73)$
- (b) $P(63 > X)$
- (c) $P(X > 61)$
- (d) $P(61 < X < 73)$
- (e) The probability that X is exactly the average value for the distribution D .
- (f) The value X such that X is the smallest value to be in the largest 7% of values for this distribution.