

Name: _____

MATH 108

Spring 2024

HW 11: Due 03/06

“The universe is basically an animal. It grazes on the ordinary. It creates infinite idiots just to eat them.”

— Rick Sanchez, *Rick and Morty*

Problem 1. (10pts) Suppose that the number of people served at the DMV is uniformly distributed over the 8 hours that they are open (9 am to 5 pm).

- (a) What percentage of people are served before noon?
- (b) What percentage of people are served after noon?
- (c) What percentage of people are served between 11 am and 3 pm?
- (d) At what time has the DMV served 90% of the people they will assist that day?

Problem 2. (10pts) Suppose you have a normal distribution with mean $\mu = 870$ and standard deviation $\sigma = 113$. Showing all your work, compute the following:

- (a) $P(X = 900)$
- (b) $P(X < 950)$
- (c) $P(X > 950)$
- (d) $P(800 < X < 950)$