

Note: To Get points, you should provide detailed expressions for each question.

1. (20 points) PM2.5 is a type of dangerous air pollution. Let us model PM2.5 measurements with a normal distribution that has a mean of 10.2. If 93.7% of all measurements fall below 11.73.

- (a) What is the standard deviation?
- (b) PM2.5 values above 12 can pose some health risks. what is the probability that a randomly selected PM2.5 measurement is over 12?