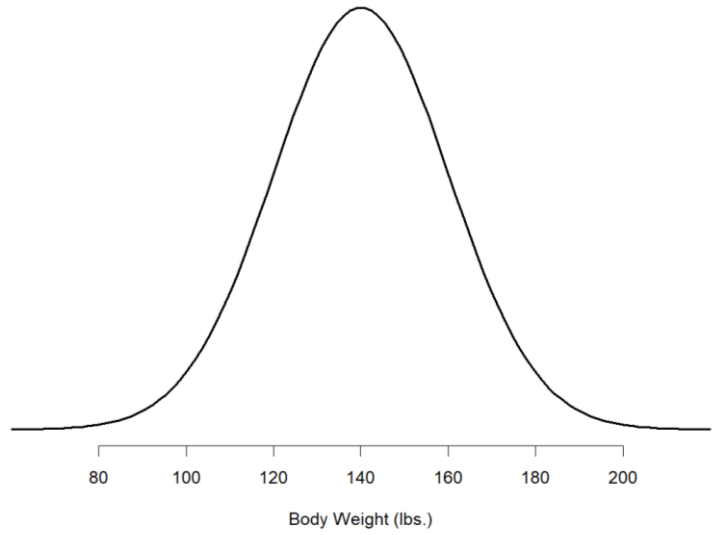
STAT 340

Chapter 9 – Practice Questions

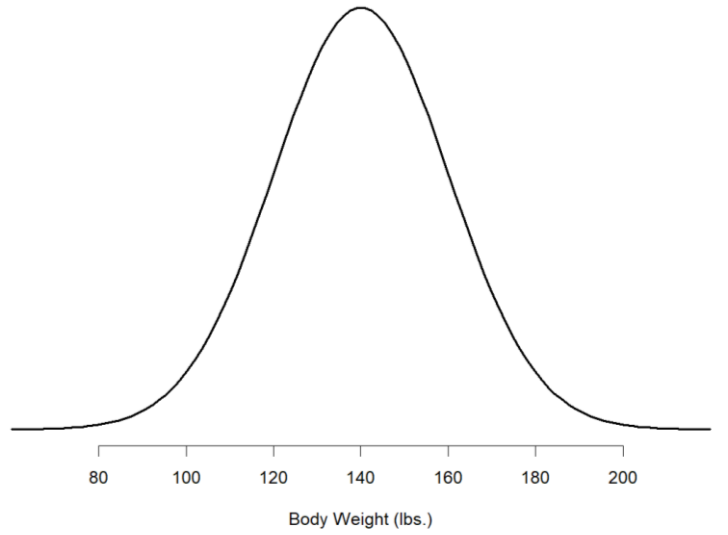
Part II

1. Given below is the normal density curve of the body weight (X) of a sample of 100 female students in ABC middle school. Shade the area under the curve to find the following probabilities.

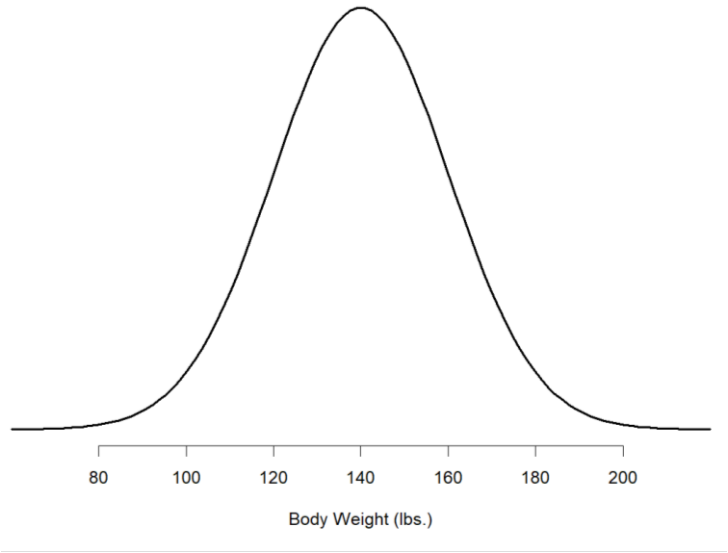
a. The probability that the body weight of a randomly selected female student is in between 100 and 150 lbs.



b. The probability that the body weight of a randomly selected female student is greater than 170 lbs.



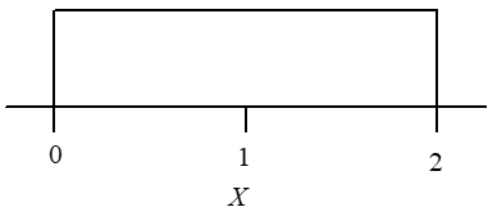
c. The probability that the body weight of a randomly selected female student is less than 120 lbs.



d. What is the probability that the body weight of a randomly selected female student is exactly 125 lbs.?

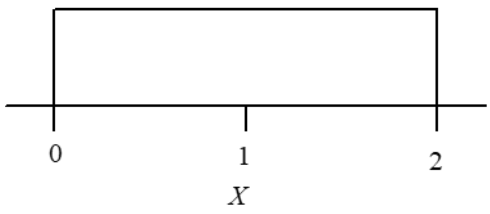
2. Find the following probabilities using the uniform density curve.

a. $P(0.5 < X < 1.5) =$



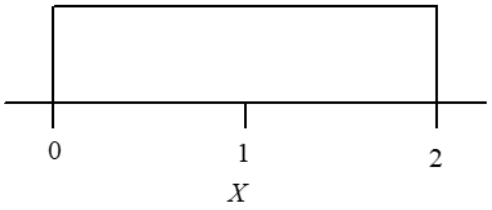
b. $P(0.5 \leq X \leq 1.5) =$

c. $P(0 < X \leq 0.5) =$

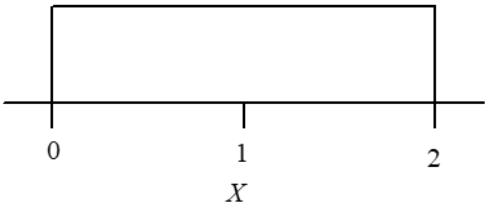


d. $P(Y = 1) =$

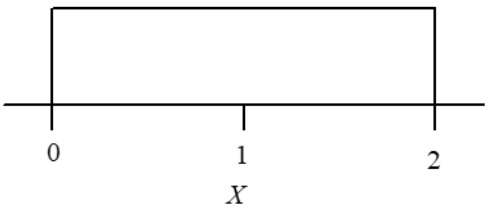
e. $P(Y \leq 0.7) =$



f. $P(X > 1.8) =$



g. $P(X \leq 1 \; or \; X > 1.5) =$



3. In a randomized, double-blind study, the effectiveness of the drug Fragmin in preventing DVT in immobilized patients was tested. It compared patients who received Fragmin with patients who receive a placebo. Of the 1518 randomly chosen immobilized patients given Fragmin, 42 experienced a complication from DVT. Of the 1473 immobilized patients given a placebo, 73 experienced a complication from DVT.

a. Compute the proportion of patents given Fragmin who experienced a complication from DVT. Do the same for the patents who received the placebo.

b. What are the risk and odds of experiencing a complication from DVT when an immobilized patient is given Fragmin? Given a placebo?