## STAT 205, Spring 2015

## Homework 3

Out: Thursday February 5. Due in: Thursday February 12

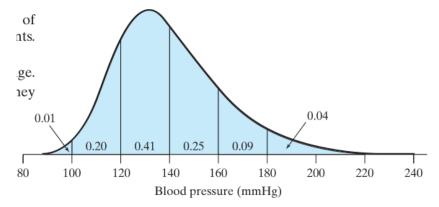
## Please give in your answers on a single side of paper.

- 1. Problem 3.S.9(c) on page 120.
- 2. Problem 3.S.10(a,b) on page 120. These are binomial probabilities; state what n and p are. You can use R to answer (a) and (b), but show your work (i.e. copy and paste the R commands and output).

3.5.9 The density curve shown here represents the distribution of systolic blood pressures in a population of middle-aged men.<sup>27</sup> Areas under the curve are shown in the figure. Suppose a man is selected at random from the population, and let Y be his blood pressure. Find

- $_{1g}$ ? (a)  $Pr\{120 < Y < 160\}$ .
  - (b)  $Pr{Y < 120}$ .

ht- (c)  $Pr{Y > 140}$ .



- **3.S.10** Refer to the blood pressure distribution of Exercise 3.S.9. Suppose four men are selected at random from the population. Find the probability that
- (a) all four have blood pressures higher than 140 mm Hg.
- (b) three have blood pressures higher than 140, and one has blood pressure 140 or less.