

15.060 Data, Models, and Decisions  
Homework 2  
Due: WEDNESDAY, September 26, 2007

1. Bertsimas and Freund, Exercise 2.34
  2. Bertsimas and Freund, Exercise 3.2
  3. Bertsimas and Freund, Exercise 3.11
  4. Bertsimas and Freund, Exercise 3.19
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5. Over the course of the calendar year, the number of cups of *hot* coffee sold at ZMart per day has mean 140 and standard deviation 100. The number of cups of *iced* coffee sold has mean 160 and standard deviation 100. Let  $W$  be the *total* number of cups of coffee sold (hot or iced) on a randomly chosen day.

(i) What is the mean value of  $W$ ?

(ii) What is the maximum possible standard deviation for  $W$ ? (Think of correlation.)

(iii) What is the minimum possible standard deviation for  $W$ ?

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