Math 10 - Spring 2013
Homework 5
Due April 29, 2013

Do not put your faith in what statistics say until you have carefully considered what they do not say.
—William W. Watt

Turn in: Exercises 4.44, 4.45, 4.50, 5.4, 5.5, 5.6, 5.7, 5.10 from the textbook, and problem 9 below.

9. Recalling chapter 2, we can view the sample mean, $\bar{x}$ as a random variable whose pdf is given by the sampling distribution, which has mean μ and standard deviation $\sigma_{\bar{x}}/\sqrt{n_x}$. Using the fact that sample means from two different distributions are independent random variables, explain why

$$SE_{\bar{x}-\bar{y}} = \sqrt{\frac{\sigma_{\bar{x}}^2}{n_x} + \frac{\sigma_{\bar{y}}^2}{n_y}}$$