1. From section 8.8: # 10 (re-do, this time using the standard normal table I gave you), 15

   N.B.: if you lost the standard normal table or weren't in class, just google "standard normal table"

2. An expert witness in a paternity suit testifies that the length (in days) of pregnancy (that is, the time from impregnation to the delivery of the child) is approximately normally distributed with mean $\mu = 270$ days and standard deviation of $\sigma = 10$ days. The defendant in the suit is able to prove that he was out of the country during a period that began 290 days before the birth of the child and ended 240 days before the birth. If the defendant was, in fact, the father or the child, what is the probability that the mother could have had the very long or very short pregnancy indicated by the testimony?

3. Suppose that the travel time from your home to your office is normally distributed with mean 40 minutes and standard deviation 7 minutes. If you want to be 95 percent certain that you will not be late for an office appointment at 1pm, what is the latest time that you should leave your home?

4. Show that the expected value (average) of a normal variable with parameters μ and σ is μ. (I want you to integrate something, not just tell me that it's μ because that's what we called it in class.)