Important points in 7.5.4:

* + Understanding Discrete vs. Continuous
  + For a Continuous Random Variable, probabilities of an interval of values are represented by areas (that are sectioned off by vertical slices).
  + For a Continuous Random Variable the probability that X=(*any specific value*) = 0. For a continuous variable there are an infinite number of possible values the variable can have. Even if you think of each one as equally likely (as in a Uniform Distribution), the probability of any one particular value is 1/(infinity) which is 0.
  + "***expected value***" is a term that means the mean (average)
  + the mean (“expected value”) is the "balance point" of the area