Suggested Answers for WarmUps for Lesson 12	
1.	How does the minimum number of trials required to consider a Binomial symmetric change as π changes? Consider the entire range of π and be complete.
Answer	As pi approaches 0.5 from 0 up or from 1 down, the number of trials gets steadily smaller. Equivalently, the farther pi is from 0.5 the greater the number of trials required for symmetry.
2.	What shape does a Binomial have when n is small and π = 0.29? At what value of n will it be appropriate to say the shape is symmetric?
Answer	This binomial will be right skewed. 17.24, which means effectively 18 trials are needed for symmetry.
3.	What shape does a Binomial have when n is small and (1-π)=0.05? At what value of n will it be appropriate to say the distribution is symmetric?
Answer	This is a very left skewed binomial. n must be equal to at least 100 to conclude that the distribution is sufficiently symmetric.
4.	What shape does a Binomial have when n is small and π=0.50? At what value of n will it be appropriate to say the distribution is symmetric?
Answer	This is a perfectly symmetric binomial. It will be symmetric regardless of the number of trials.
5.	What is the greatest difference between discrete and continuous random variables?
Answer	The greatest difference is found in the nature of the values that make up such variables. The gaps between discrete values and the lack of gaps between continuous values make for distinctly different variables and methods. The difference is reflected specifically in that we are able to calculate a probability associated with a single value of a discrete random variable but this is impossible for a continuous random variable because we cannot isolate a single value. Thus, the probability for a single value of a continuous random variable is 0.
6.	X is defined as the length of time in minutes required to fill a prescription. Interpret this statement: X~N(10,3)
Answer	X~N(10,3) means that the length of time in minutes required to fill a prescription is a normally distributed random variable with a mean of 10 minutes and a standard deviation of 3 minutes.
7.	Describe the assumptions which you would be making if you chose to use the Uniform distribution as a model for a random variable of interest.
Answer	Using the uniform distribution requires virtually no assumptions. If all one knows is that the variable of interest is continuous, the uniform has the fewest restrictions when it comes to distribution of values over the interval. There is no mode, it is always symmetric and it has no complicating characteristics such as a concentration of probability in a particular area.
8.	Why do so many naturally occurring phenomena generate Normal distributions?
Answer	The normal occurs so often in nature because nature is complex. Simple organisms are few (and microscopic). The vast majority of organisms are influenced by a large number of factors each with little influence of its own, but the sum of which dictate the nature of the organism. This sort of process, one with lots of inputs but no particularly dominant one, is characteristic of a normal distribution.