**Crown Institute of Higher Education**

BUS104

Week 6 - workshop discussion/practice questions

**Sampling Distributions**

In the tutorial exercise of last week, you worked with a normal probability distribution

associated with the response times for priority one (000) emergency calls for a metropolitan ambulance service. This variable is known to be approximately normally distributed with mean 15.4 minutes and standard deviation 3.1 minutes.

1. If a sample of 100 response times was selected at random what would be the probability that the mean response time for the sample is less than 15 minutes? **Hint: The graph of the normal distribution described above is of no use to you in answering this question but a similar one will be – make sure you draw this graph before calculating the required probability.**

2. If it is known that 10% of priority one emergency ambulance calls are in fact hoaxes, what would be the probability that in a random sample of 100 calls more than 15% are hoax calls? **Hint: The 10% referred to in this question is a population proportion. The 15% referred to is a sample proportion. Sketch the graph of an appropriate sampling distribution to help you answer this question.**