Stat 330 Homework #4

Consider the following distribution

x	1	2	3
P(x)	.3	.1	?

Q1 What is the probability of 3 that would make this distribution a proper probability

distribution (in decimal form)?

Q2 What is the probability that x is less than or equal to 2 (in decimal form)?

Consider the following distribution

x	5	10	15
P(x)	.2	.4	.4

Q3 What is the mean of this probability distribution?

Q4 What is the variance of this probability distribution?

Q5 What is the standard deviation of this probability distribution (3 decimal places)?

Suppose that 40% of households have at least one dog and we select 20 random households for a pet survey. (A binomial random variable).

Q6 What is the probability that at most eight of the households will have at least one dog? (4 decimal places)

Q7 What is the probability that exactly five of the households will have at least one dog? (4 decimal places)

Q8 What is the mean number of households that will have at least one dog?

Q9 What is the variance?

Q10 What is the standard deviation (3 decimal places)?