Suppose I have 100 emails. 58 are spam, 42 are not spam.

\* 47 of those 58 emails that are spam have the word "buy"

\* 41 of those 58 emails that are spam have the word "win"

\* 3 of those 42 emails that aren't spam have the word "buy"

\* 5 of those 42 emails that aren't spam have the word "win"

A new email arrives that contains the word "win" but not the word "buy."  
  
Answer the following questions:

* Should this email be classified as spam or not spam?
* What is the posterior probability of the email being spam? Hint: Use normalization!

Note: You should smooth the probabilities of the features given the classes, but not the priors.