44. (a) The number of different ways of picking up a pair of tuning forks out of a set of five is $5!/(2!3!) = 10$. For each of the pairs selected, there will be one beat frequency. If these frequencies are all different from each other, we get the maximum possible number of 10.

(b) First, we note that the minimum number occurs when the frequencies of these forks, labeled 1 through 5, increase in equal increments: $f_n = f_1 + n\Delta f$, where $n = 2, 3, 4, 5$. Now, there are only 4 different beat frequencies: $f_{\text{beat}} = n\Delta f$, where $n = 1, 2, 3, 4$.