MODULE 8 QUIZ 2

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1. Race Driver Hamilton's car is really fast. Given that probability of Hamilton winning the Driver's championship is called the prior, which of the following might be the posterior?   * 1 point

- ⦿ Probability of Hamilton winning given his car is the fastest
- ○ Probability of Hamilton having the fastest car given that he wins the championship
- ○ Probability of Hamilton having the fastest car
- ○ Probability that Hamilton has the fastest car and he wins the championship
- ○ Probability that Hamilton does not have the fastest car and still wins the championship

2. Race Driver Hamilton's car is really fast. Given that probability of Hamilton winning the Driver's championship is called the prior, which of the following might be the likelihood? * 1 point

○ Probability of Hamilton winning given his car is the fastest

● Probability of Hamilton having the fastest car given that he wins the championship

○ Probability of Hamilton having the fastest car

○ Probability that Hamilton has the fastest car and he wins the championship

○ Probability that Hamilton does not have the fastest car and still wins the championship

3. Probability of rain is known as a function of each possible environmental temperature. The prior probability of any temperature (real valued) can also be evaluate. Can you compute the probability of rain? * 1 point

● Yes, the probability of rain can be computed using Bayes theorem

○ Yes, the probability of rain can be computed using total probability theorem

○ No, there are too many possible temperatures to sum over, so total probability theorem cannot be used

○ No, these probabilities cannot be normalized easily, so Bayes theorem cannot be used

○ Yes, but only if these probabilities form a gaussian distribution

4. Which of the following is a key assumption that Naive Bayes classifiers * 1 point **make, that given them the name "naive", but allow them to be computationally feasible?**

- ⦿ Naive bayes assumes that all features contribute independently to the output class
- ○ Naive bayes uses total probability theorem which is not exactly correct and allows errors to creep in
- ○ Naive bayes reduces the space of all possible hypothesis to an enumeratable discrete space
- ○ Naive bayes is same as optimal bayes but trained for lesser iterations so it does not converge
- ○ Naive Bayes only works on discrete output

5. Anand was playing the last round of a chess championship, which he * 1 point **had to win the title. His last round opponent would have been Vidit with probability 0.7, Pragg with probability 0.2, and Adhiban with probability 0.1. Anand can defeat Vidit with probability 0.4, Pragg with 0.7, and Adhiban with 0.9. Anand won. What is the probability that his opponent was Vidit.**

- ○ 0.18
- ○ 0.27
- ⦿ 0.54
- ○ 0.63
- ○ 0.81

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