1. You are told that the probability of classes $\omega_1$ and $\omega_2$ given an observation $x \in (1, 2)$ are

\[ p(\omega_1|x) = \frac{1}{3 - x}; \quad p(\omega_2|x) = 1 - p(\omega_1|x) \]

Which class would you bet on if you observed $x = 1.5$? State any assumptions you need to make to solve the problem.

2. How would you make your decision if instead you are given $p(x|\omega_i)$? State any assumptions you need to make to solve the problem.