

Show all work clearly and in order. Justify your answers.

(1) People in 3 different states were asked about their favorite hot beverage. Their responses were recorded in the table below.

Table 1: Preference of Drink vs Home state

State	Cocoa	Coffee	Tea	Total
NY	11	9	16	36
MN	21	18	4	43
WI	12	12	35	59
Total	44	39	55	138

(a) If we pick a Minnesotan (MN) what is the probability they like cocoa?

(b) Use **Bayes' Theorem** to find the probability a randomly selected person is from New York given that they prefer coffee.

(c) Are the events "From Minnesota (MN) or Wisconsin (WI)" and "Prefers tea" independent?