

SECTION 8.1. Bayesian Inference and the Posterior Distribution

Problem 1. Artemisia moves to a new house and she is “fifty-percent sure” that the phone number is 2537267. To verify this, she uses the house phone to dial 2537267, she obtains a busy signal, and concludes that this is indeed the correct number. Assuming that the probability of a typical seven-digit phone number being busy at any given time is 1%, what is the probability that Artemisia’s conclusion was correct?