

The American Diabetes Association estimates that 5.9% of Americans have diabetes. Suppose that a medical lab has developed a simple diagnostic test for diabetes that is 98% accurate for people who have the disease and 95% accurate for people who do not have it. If the medical lab gives the test to a randomly selected person, what is the probability that the diagnosis is correct?

Suppose a survey of high school students showed that 47% of them worked during the summer. Of those who worked, 62% said they watched 2 hours or more of television per day during the summer. Of those who did not work, 79% watched 2 hours or more. What is the probability that a randomly chosen high school student watched fewer than 2 hours of television during the summer?