

Answer on Question #70945 – Math – Statistics and Probability

Question

A doctor may administer drug A or drug B to her/his patients. Drug A is used on all patients except for the 10 % that show an allergic reaction to the drug. Ninety percent of the patients treated with drug A recover, while 70% of the patients treated with Drug B recover. a) Find the probability that a person will be treated with Drug A and will recover. b) a person will be treated with Drug B and will not recover

Solution

$$\begin{aligned} \text{a) } P(\text{drug A and Recover}) &= P(\text{drug A}) \times P(\text{Recover}|\text{drug A}) = \\ &= 0.9 \times 0.9 = 0.81. \end{aligned}$$

$$\begin{aligned} \text{b) } P(\text{drug B and Not Recover}) &= P(\text{drug B}) \times P(\text{Not Recover}|\text{drug B}) = \\ &= 0.1 \times 0.3 = 0.03. \end{aligned}$$

Answer: a) 0.81; b) 0.03.