

Statistics Assignment - 8

① Probability that A is guilty (before new evidence) = 0.5 = Prob of B is guilty

Due to blood type match,

Probability that A's blood type is matched = 1

Probability of B's blood type to get matched = 0.1

Probability of A being guilty

$$= \frac{0.5 \times 1}{0.5 \times 1 + 0.5 \times 0.1} = \frac{10}{11}, \rightarrow \text{(a) part}$$

The probability that B's blood type matches

$$\text{crime scene} = 0.1 \left(\frac{10}{11} \right) + \frac{1}{11} = \frac{2}{11}$$

\rightarrow (b) part