

Section 4.1

$$\begin{aligned}
 \text{#23)} \quad P &= \frac{\text{at least 1B} + \text{at least 1W}}{C(10,3)} \\
 &= \frac{(1W+3B) \text{ or } (2W+1B)}{C(10,3)} \\
 &= \frac{C(4,1) \cdot C(6,2) + C(4,2) \cdot C(6,1)}{C(10,3)}
 \end{aligned}$$

Section 4.2

$$\begin{aligned}
 \text{#31)} \quad P(A) &= 0.25 & P(A \cup B) &= 0.45 \\
 P(B) &= x & & \\
 \text{a) } \underline{\text{Disjoint}} \rightarrow \quad P(A \cup B) &= P(A) + P(B) - P(A \cap B) \\
 &0.45 = 0.25 + x - \emptyset \\
 &x = 0.2
 \end{aligned}$$

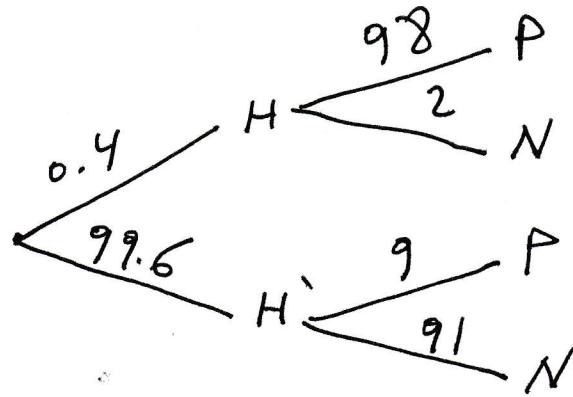
$$\begin{aligned}
 \text{b) } \underline{\text{Index}} \rightarrow \quad 0.45 &= 0.25 + x - (0.25)(x) \\
 0.45 &= 0.25 + 0.75x \\
 0.2 &= 0.75x \Rightarrow x = 0.267
 \end{aligned}$$

c) A is in B

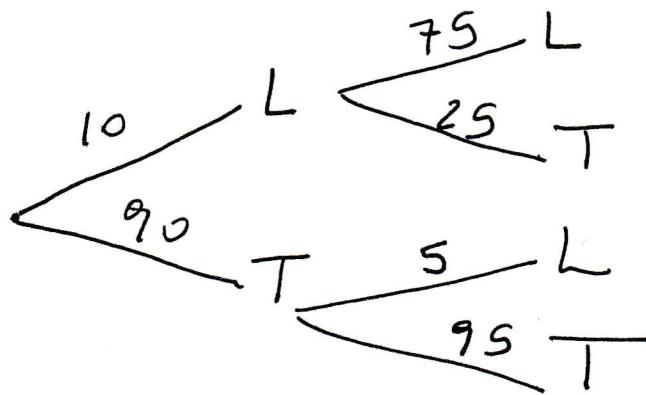
$$\begin{array}{l}
 B \circledcirc A \\
 \text{A} \cap \text{B} \\
 = \text{A} \\
 = 0.25
 \end{array}$$

$$\begin{aligned}
 0.45 &= 0.25 + x - A \cap B \\
 0.45 &= 0.25 + x - 0.25 \\
 x &= 0.45
 \end{aligned}$$

4.3
1,3
Tree

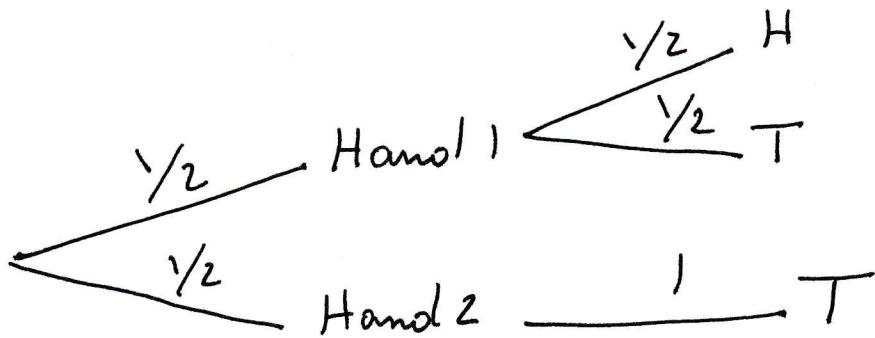


#11)



$$P(T|L) = \frac{(90)(5)}{(10)(75) + (90)(5)}$$

#21)



$$P(Hand 2 | T) = \frac{\frac{1}{2}}{\frac{1}{4} + \frac{1}{2}}$$