Section 4.1

#23) $P = \dfrac{\text{at least 1 B \& at least 1 W}}{C(10,3)}$

$= \dfrac{(1W \& 2B) \text{ or } (2W \& 1B)}{C(10,3)}$

$= \dfrac{C(4,1)\cdot C(6,2) + C(4,2)\cdot C(6,1)}{C(10,3)}$

Section 4.2

#31) $P(A) = 0.25$ $\quad P(A \cup B) = 0.45$

$P(B) = X$

a) Disjoint $\longrightarrow$ $P(A \cup B) = P(A) + P(B) - P(A \cap B)$

$0.45 = 0.25 + X - \phi$

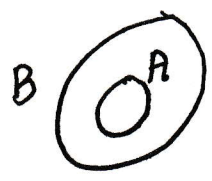
$X = 0.2$

b) Indep $\longrightarrow$ $0.45 = 0.25 + X - (0.25)(X)$

$0.45 = 0.25 + 0.75X$

$0.2 = 0.75X \Longrightarrow X = 0.267$

c) A is in B



$A \cap B = A = 0.25$

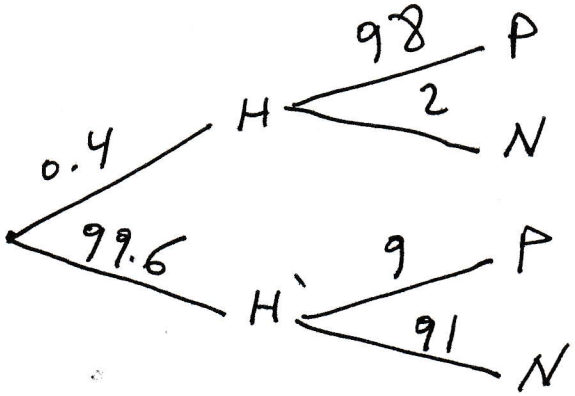
$0.45 = 0.25 + X - A \cap B$

$0.45 = 0.25 + X - 0.25$

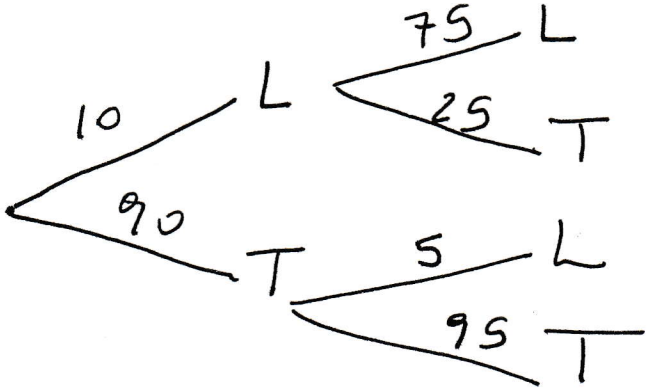
$X = 0.45$

4.3

#1, 3) Tree

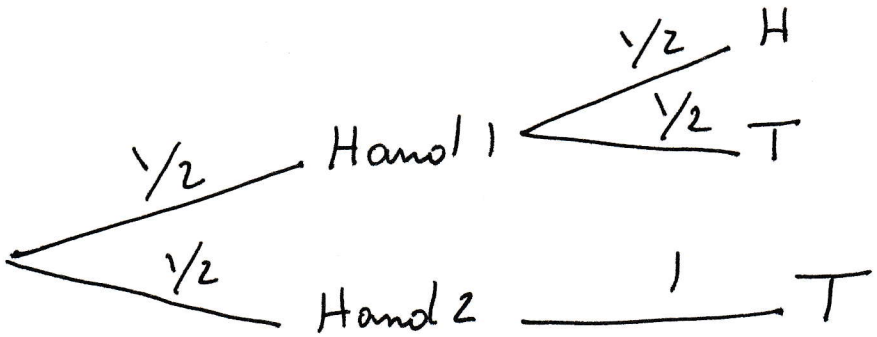


#11)



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

#21)



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