Section 2.4.

46. I think P(A|B) is larger as a professional basketball are required to be tall, However, Not all the people over 6ft in height would like to be a basketball player.

50. a. the probability is 0.05

b. the probability is 0.07+0.05 = 0.12

c. the probability for the next shirt is a short-sleeved shirt is:

0.04+0.02+0.05+0.08+0.07+0.12+0.03+0.07+0.08 = 0.56.

the probability for the long-sleeved is 0.44.

d. Let the event A be the event that the next shirt is a print and B be the event that the next shirt is medium.

$P(B|A) = P(A \cap B)/P(A) = \frac{0.12}{0.25} = \frac{12}{25}$

e. The probability is $\frac{0.8}{0.4+0.8+0.3} = 0.533$

f. The probability for the short is $\frac{0.8+0.7+0.12}{0.8+0.7+0.12+0.1+0.05+0.07} = 0.44$

for the long is $\frac{0.1+0.05+0.07}{0.8+0.7+0.12+0.05+0.07} = 0.505$.

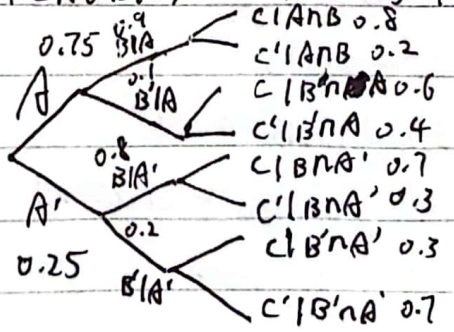
52. $P(A \cup B|C) = \frac{P((A \cup B) \cap C)}{P(C)}$

$P(C) \cdot P(A \cup B|C) = P((A \cup B) \cap C) = P((A \cap C) \cup (A \cap B))$

$\Rightarrow P(C) \cdot P(A \cup B|C) = P(A \cap C) + P(B \cap C) - P(A \cap B \cap C)$

$\Rightarrow P(A \cup B|C) = P(A|C) + P(B|C) - P(A \cap B|C)$

63. a.



P(B') = P(A|B)

b. P(A∩B∩C) = P(C|A∩B)·P(A∩B) = P(C|A∩B)·P(B|A)·P(A)
= 0.8×0.9×0.75 = 0.54

c. P(B∩C) = P(A'∩B∩C) + P(A∩B∩C)
= 0.54 + 0.25×0.8×0.7 = 0.68

d. P(C) = P(A∩B∩C) + P(B'∩C) = P(A'∩B∩C) + P(A∩B∩C) + P(A'∩B'∩C)
+P(A'∩B'∩C)
= 0.74

e. P(A|B∩C) = P(A∩B∩C) / P(B∩C) = 0.54/0.68 = 0.79

B+

Section 2.5.

71. a. The probability of the the Europe project is not sucessful as the asian project is not successful is 0.3 is there are independent events.
thus P(B|A) = P(B').

b. The probability is P = 1-P(A∩B') = 0.82.

c. The probability is p = P(A∩B') / (1-P(A'∩B')) = 0.1046

72. P(A1|A2) = P(A1∩A2) / P(A2) = 0.44
P(A2|A3) = P(A2∩A3) / P(A3) = 0.25 P(A2|A3) = P(A2)
P(A1|A3) = P(A1∩A3) / P(A3) = 0.178.
Thus A2 and A3 are independent to each other.

80. P(system work) = 1 − (1-0.9)²·[1− (0.9)²]
= 0.9981.

84. a. P(all of the next 3 vehicles inspected pass) = (0.7)³ = 0.343

b. P(at least one pass) = 1-(0.3)³ = 0.973

c. P(exactly one pass) = C(3,1)(0.3²)(0.7)×3 = 0.189

d. P(at most one pass) = P(exactly one pass) + P(both next 3 vehicles are not pass)
= (0.3)³ + 0.189 = 0.216

e. P = (0.7)³ / 0.973 = 0.35

Section 3.1

4. X=0.1.2.3.4.5.6.

x= 4 for 401120

x=5 for 3=1450

x=6 for 57461

5. NO. ~~The~~ It ~~distribute~~ distribute in infinite possible value and each of the possibility are approach to 0.

8. Y=3 { SSS }

y=4 { FSSS }

y=5 { FFSSS, SFSSS }

y=6 { FFFSSS, SSFSSS, SFFSSS, FSFSSS }

y=7 { FFFFSSS, FSSFSSS, SFSFSSS, SSFFSSS, SFFFSSS, FSFFSSS, FFSFSSS }

10. a. T=0.1.2.3.4.5.6.7.8.9.10.

b. X=0,1,2,3,4,5,6

c. U=0.1.2.3.4.5.6

d. Z: 0.1.2.

Section 3.2

12 a. The probability for the flight will accommodate all ticketed passagers who showup is P= 0.05+0.10+0.12+0.14+0.25+0.17=0.83

b. The probability is P=1-0.83= 0.27

c. The probability for the first position on the standby is 0.05+0.10+0.12+0.14+0.25 =0.66

The probability for the third one is 0.05+0.10+0.12 =0.27.

23. a. P(X=2)=0.39-0.19=0.2

b. P(X>3)= 1-0.89=0.61

c. P(2≤X≤5)=0.92-0.19=0.73

d. P(2<X<5)=0.92-0.39=0.53

25. $P(Y=1) = 1-P$

$P(Y=2) = P \cdot (1-P)$

$P(Y=3) = P^2 \cdot (1-P)^2$

...

$P(Y=n) = P^n (1-P)^n$

~~[illegible]~~