Homework 0

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1. (b) (f) (h) (i)
2. P = 6/36 = 1/6
   1. {(red, blue, green), (red, blue, blue), (red, green, green), (blue, blue, green), (blue, green, green), (green, green, green)}
   2. P (blue, green, green) = 2 \* 3/20 = 0.3
3. 1. P(A|C) = P(AC) / (P(C) = 5/27
   2. P(B|C) = P(BC) / P(C) = 7/9
   3. No P(AC) != P(A)\*P(C)
4. 1. B = the stuff is Bear L = the stuff is Lion U = the stuff is Unicorn D = the stuff is Dog

BW = the stuff is white when the stuff is Bear

LW = the stuff is white when the stuff is Lion

UW = the stuff is white when the stuff is Unicorn

DW = the stuff is white when the stuff is Dog

P(W) = P(BW∩B) + P(LW∩L) + P(UW∩U) + P(DW∩D)

* 1. WB = the stuff is white bear

WL = the stuff is white lion

WU = the stuff is white unicorn

WD = the stuff is white dog

P(W) = P(WB|B) \* P(B) + P(WL|L) \* P(L) + P(WU|U) \* P(U) + P(WD|D) \* P(D)

1. P = 2/7 \* 1/7 = 2/49
2. P = 1-0.342\*2 = 0.316
3. 1. P = 20 / (20+6+21) = 20/47
   2. P = (100 \* 0.2) / (100 \* 0.2 + 60\*0.15+140\*0.1) = 20/ 43
4. P = 45/55 = 9/11
5. P = 0.5 \* 0.5 \* 0.2 \* 0.2 \* 6 = 0.06