Homework 0
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1. (b) (f) (h) (i)
2. $P = 6/36 = 1/6$
3.
   a. {(red, blue, green), (red, blue, blue), (red, green, green), (blue, blue, green), (blue, green, green), (green, green, green)}
   b. P (blue, green, green) $= 2 * 3/20 = 0.3$
4.
   a. $P(A|C) = P(AC) / (P(C) = 5/27$
   b. $P(B|C) = P(BC) / P(C) = 7/9$
   c. No $P(AC) != P(A)*P(C)$
5.
   a. 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
      $P(W) = P(BW \cap B) + P(LW \cap L) + P(UW \cap U) + P(DW \cap D)$
   b. WB = the stuff is white bear
      WL = the stuff is white lion
      WU = the stuff is white unicorn
      WD = the stuff is white dog
      $P(W) = P(WB|B) * P(B) + P(WL|L) * P(L) + P(WU|U) * P(U) + P(WD|D) * P(D)$
6. $P = 2/7 * 1/7 = 2/49$
7. $P = 1-0.342*2 = 0.316$
8.
   a. $P = 20 / (20+6+21) = 20/47$
   b. $P = (100 * 0.2) / (100 * 0.2 + 60*0.15+140*0.1) = 20/ 43$
9. $P = 45/55 = 9/11$
10. $P = 0.5 * 0.5 * 0.2 * 0.2 * 6 = 0.06$