1. (4C1*38 - 4C2*28 + 4C3*18) / 48 = 0.377

   Required probability that all 4 seasons occur at least once each among their birthdays:

   1-0.377=0.623

   4P(A1) = 6P(A1 \ A2)+4P(A1 \ A2 \ A3).

   P(A1) = (3/4)7

2. The number of possibilities for the former is:

   (52)(62)263(52)(62)263

   The number of possibilities for the latter is:

   (51)(63)64(51)(63)64

   Probability:

   (52)(62)263+(51)(63)64(307)(52)(62)263+(51)(63)64(307)

   Probability = 30.2%