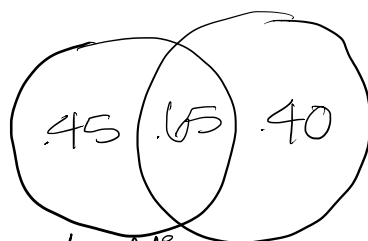
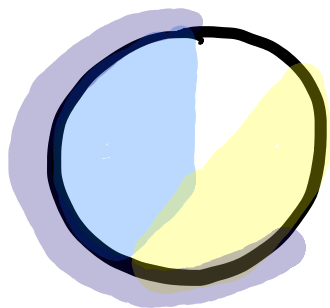


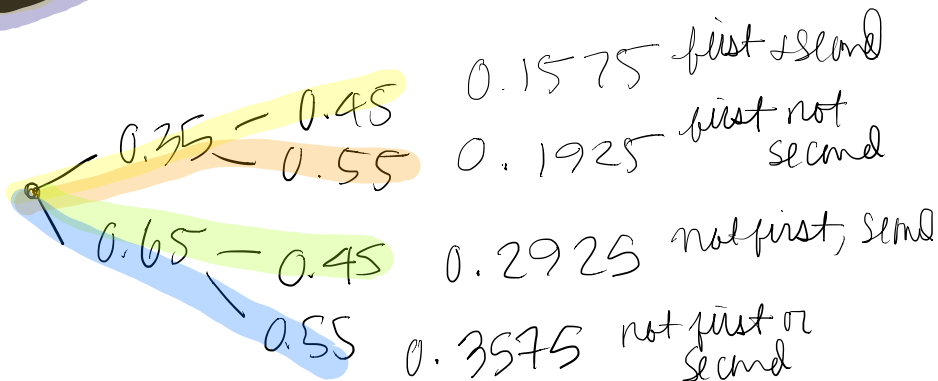
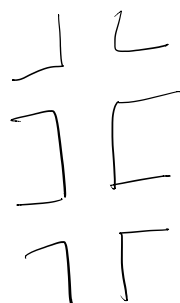
#2)

#4)



→ not adding up

#5)



$$P(A) + P(B) - P(A \cap B) = .7075$$

$$P(A) * P(B)$$

#6) b - 0.16 + 0.11 ? $P(A \cap B)$ mutually exclusive

c - same? \uparrow

d - "at most", "at least"

#7 e, part z) "exactly one" - 207 $\binom{240}{207}$

2,547 possible ways to get one smy

ex: 810 160

#8)

skip 9 if 8

#10) a) 6

$$b) \binom{7}{3} \binom{2}{3} \binom{6}{3}$$

D=9 *without replacement

S=7

G=6

$$\frac{9!}{5!(9-5)!} \quad \frac{9!}{5!4!} \quad \frac{9 \cdot 8 \cdot 7 \cdot 6}{4!} \quad \#8a)$$

$$\#8b) \quad \frac{\binom{9}{5}}{\binom{22}{5}} \quad \frac{\frac{9!}{5!(9-5)!}}{\frac{22!}{5!(22-5)!}} \quad \frac{126}{26,334}$$

$$\#8c) \quad \frac{\binom{9}{5} * \binom{7}{5} * \binom{6}{5}}{\binom{22}{5}} \quad \frac{126 + 21 + 6}{26,334}$$

d) 1 - C (0.058) \rightarrow all from same shift

$$\#8d) \quad \frac{\binom{9}{3} + \binom{7}{2}}{\binom{22}{5}} \quad \frac{84 * 21}{\frac{22!}{5!(22-5)!}} \Rightarrow 26,334$$

#8e) not 0 shifts, not 1 shift, you 2+3

$$\#8f) \quad \frac{\binom{9}{2} * \binom{7}{2} * \binom{6}{1}}{\binom{22}{5}} \quad \frac{36 * 21 * 6}{26,334} \quad \begin{matrix} \text{shifts} \\ \frac{6!}{1!(6-1)!} \end{matrix}$$

#9a) D=10
S=8
G=6

(24) b) $\frac{210}{24!} \quad 134,596$
6!

$$c) \frac{\binom{16}{6} + \binom{8}{6} + \binom{6}{6}}{\binom{24}{6}} \quad \frac{210 + 28 + 0}{134,596}$$

$$d) 1 - .0078$$

$$e) \frac{14624}{24?} \quad 42504$$

5? 19?

$$10 a) \frac{\binom{6}{2} * \binom{16}{1}}{\frac{22}{3}} = \frac{15 * 16}{1,540} \quad b) \frac{\binom{7}{3} + \binom{9}{3} + \binom{6}{3}}{\binom{22}{3}} \quad \frac{35 + 84 + 20}{1,540}$$

$$c) \frac{\binom{1}{1} * \binom{9}{1} * \binom{6}{1}}{\binom{22}{3}} = \frac{7 * 9 * 6}{1540}$$

$$d) \frac{\frac{16}{5}}{\frac{22}{5}} = \frac{4,368}{26,334}$$

#9, 2.2 + 2.3

D=10

S=8

N=6

DNS

or

DNG

or

SNG

$$\frac{\binom{18}{5} + \binom{16}{5} + \binom{14}{5} - \binom{8}{5} - \binom{6}{5}}{\binom{24}{5}}$$

unrepresented?

#7, at least one - none = answer D

(all)

ea - a/d or d/a

lb - 1.3.3.3

3.1.3.3 etc + /a

#5

D=10

S=7

N=7

$$\frac{\binom{10}{2} \cdot \binom{7}{3}}{\binom{24}{5}}$$

10 d) Since no getting 23

$$\binom{14}{5}$$

$$\binom{19}{5}$$

45% - reg. consume coffee

40% - soda

65% - at least one



Probability Rules

Disjoint: prob of both occurring at same time is 0
 $P(A+B) = 0$

Mutually Exclusive: can happen at same time
 $P(A \cup B) = P(A) + P(B)$

non-mutually exclusive:
 $P(A \cup B) = P(A) + P(B) - P(A \cap B)$

Independent: occurrence doesn't change prob of other
 $P(A \cap B) = P(A) * P(B)$

dependence: one occurrence affects another
 $P(A \cap B) = P(A) * P(B|A)$

homework

#6 a) ✓

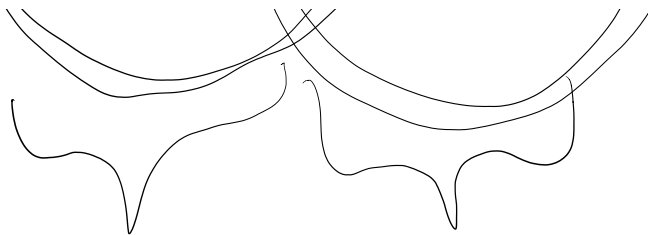
b) type 1 \cap type 2
0.16 \cap 0.11

9 = D

7 = S

6 = N





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