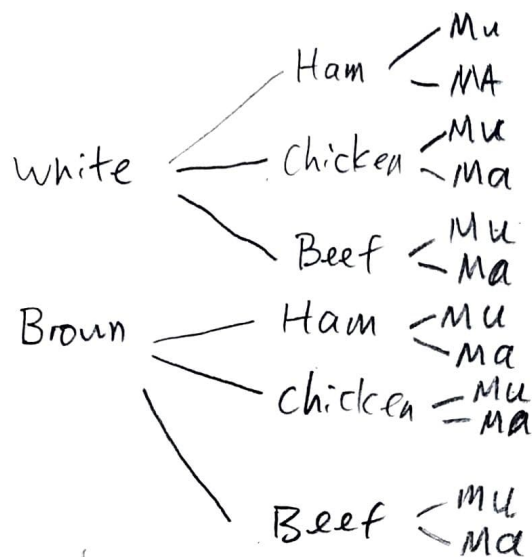


229-231

# AP Stat Week 1

Q1:



12 Sandwich options

Q2:

$$4 - 1+3, 2+2, 3+1$$

$$11 - 6+5, 5+6$$

Total: 5 ways

Q3:

4 "6" in a deck

12 face cards

$$12+4=16$$

Q8

$$6^5 = 7776$$

Q12

$$2^5 = 32$$

Q19

$$5! - 2 \cdot 4! = 72$$

Q22

$$10 \cdot (2 \cdot 3^4) = 1620$$

239-240

Q3.

a)  $6P3$

b)  $9P4$

c)  $20P4$

d)  $101P5$

e)  $76P7$

Q4

a)  $10 \cdot 9 \cdot 8 \cdot 7 = 5040$

b)  $16 \cdot 15 \cdot 14 \cdot 13 = 43680$

c)  $5 \cdot 4 = 20$

d)  $9 \cdot 8 \cdot 7 \cdot 6 = 3024$

e)  $7 \cdot 6 \cdot 5 \cdot 4 \cdot 3 \cdot 2 \cdot 1 = 5040$

Q11

$$11! \cdot 2 = 79833600$$

Q12

Tanya can be ignored

$$9! - 4(8!) = 201600$$

Q16

a)

$$10P5 < 60000 < 10P6$$

$\therefore$  It should be 6 digits

b)  $3! \cdot 7! = 30240$

Q22.

$$\frac{6!}{6} = 5! = 120$$

Normally, there will be  $6!$  ways, but since it is a round table, there are 6 duplicates per way.

Q24.

$$10 \cdot 9 \cdot 8 \cdot 7 \cdot 6 \cdot 5 \cdot 4 \cdot 3 \cdot 2 \cdot 1 = 3628800 \text{ ways}$$