AP Stats - Unit IV Review

1a. .60 (90/150) 1b. .90 (.6+.78-.48)

1c. .6154 (72/117) 1d. .80 (72/90)

2a. probably not independent

$\frac{7}{60} \neq \frac{13}{150}$ $\frac{7}{13} \neq \frac{60}{150}$

2b. no, not mutually exclusive. there are employees who are in all possible situations.

3. 0 np≥10 and nQ≥10 1-binomialcdf(10000,.01,200)

4a. mean - $-.20 SD - $1.89

(over)

4b. mean - $-.40 SD - $2.67

5a.

move	prob.
5	.50
10	.25
20	.25

5b. mean - 10 SD - 6.1237

ZONK!

5c.

move	prob
0	2/6
1	1/6
2	1/6
3	1/6
4	1/6

5d. mean - 1.6667 SD - 1.4907

(TOTAL Move) 5e. mean - 11.6667 SD - 6.3025

6. mean - 8.3333 SD - 6.3025

binomialpdf(4,.3,0)

7a. .2401 7b. .0504 geompdf(.3,6)

7c. .3828 binomialcdf(10,.3,2)

EV=np

8a. 36 8b. 5.0200 SD=√npQ

8c. np≥10 and nQ≥10

9a. μ=100 σ=8 9b. μ=1000 σ=60

9c. μ=100 σ=8.5440 9d. μ=-50 σ=10 (√(8²+6²))

→ SD=√(8²+(.5)²(6²)) =√73

9e. μ=100 σ=11.3137 (√(8²+8²))

10a. .01 10b. .0098 (.99)(.99)(.01)

10c. .3660 .99^100 10d. FIRST probability of you winning is still .01, but probability of you still being around to draw changes.

10e. position is now irrelevant

(4a)

net winning	prob
0	.10
2	.40
-2	.50

(10e)

first → $\frac{1}{100}$

second → $\frac{99}{100} \cdot \frac{1}{99}$

third → $\frac{99}{100} \cdot \frac{98}{99} \cdot \frac{1}{98}$

fourth → $\frac{99}{100} \cdot \frac{98}{99} \cdot \frac{97}{98} \cdot \frac{1}{97}$

} all equal $\frac{1}{100}$