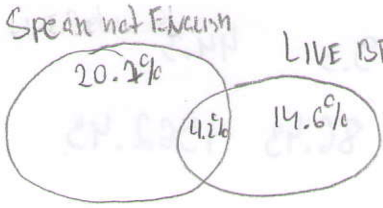
2.6

a) 0   b) $\frac{4}{36} = \frac{1}{9}$ c) $\frac{1}{36}$

2.8

a) No

b)



c) $0.146 \times (1-0.042) = 0.13986 \sim 13.99\%$

d) $14.6 + 20.7 - 4.2 = 31.1\%$

e) $(1-0.042) = 0.958 = 95.8\%$

f) Yes.

2.20

a) $P(M \text{ or } F) = P(M) + P(F) - P(A,B) = \frac{114}{204} + \frac{108}{204} - \frac{78}{204} = \frac{114}{204}$

b) $\frac{78}{204}$

c) $\frac{19}{204}$, $\frac{11}{204}$

d) It does appear that eye colors ARE Independent. There are simply a high number of people with blue eyes in the sample.

2.30

a) $\frac{28}{95} \cdot \frac{59}{94} = 18.5\%$

b) $\frac{72}{95} \cdot \frac{28}{94} = 22.6\%$

c) $\frac{72}{95} \cdot \frac{28}{95} = 22.3\%$

d) Its only 1 book from 95, so by removing 1 book we only affect the ratio slightly. If we had a TOTAL of 3 books, ratio would be higher

2.38 a)

$m = 15.7$

i	0	1	2
x_i	\$0	\$25	\$60
$P(x)$	0.54	0.34	0.12
$x_i \times P(x)$	0	8.5	7.2
$x_i - m$	-15.7	9.3	44.3
$(x_i - m)^2$	246.49	86.49	1962.49
$(x_i - m)^2 \times P(x)$	133.11	29.41	235.5

$= 398.01 = VAR.$

$\delta = \sqrt{398.01} = 19.95$

b) 120 x \$15.7 = \$1884. It is reasonable to expect a revenue of \$15.7 on average. $\sqrt{\delta} = \sqrt{120 \cdot 398.01} = 218.54$. We make the assumption that the VARIABLES ARE INDEPENDENT. This could be an issue since a family traveling together could influence the number of checked luggage to each other

2.44 a) Normal distribution

b) $\frac{2.2 + 4.7 + 15.8 + 18.3 + 21.2}{100} = 62.2\%$

c) $0.622 \times 0.41 = 25.5\%$ Assuming MALES and FEMALES are equally distributed within brackets.

d) It appears that there are more females making less than 50,000/year than we assumed.