2.12, 2.14, 2.28, 2.30

Week 1 Math Homework   Chris Fenton

2.12 (a) 0.32 (b) .57 (c) .43

(d) .1024 You must assume that
the probability of one kid missing
school is independent of their siblings

(e) .4624 Same assumption as above

(f) probably not, other factors probably
make the probabilities dependent.

2.14

coverage		Neither OW or obese	OW
Yes		134,801	.899
No		15,098	.101
Total		149,899 (1)	

(a) $\frac{15,327}{428,638}$ = .036

(b) $157,026 + 15,098 + 14,412 = 186,536$

0.435 $\frac{186,536}{428,638}$

2.28

$\dfrac{Blue}{4}$	$\dfrac{Gray}{5}$	$\dfrac{Black}{3}$	$\dfrac{Total}{12}$

Green

(a) 2 blue

$$\frac{4}{12} \cdot \frac{3}{11} = \frac{12}{132} = \boxed{0.091}$$

(d) $\boxed{0}$

matching

(b) No gray

$$\frac{7}{12} \cdot \frac{6}{11} = \frac{42}{132} = \boxed{0.318}$$

(e)
$$\frac{4}{12} \cdot \frac{3}{11} = 0.09$$

$$\frac{5}{12} \cdot \frac{4}{11} = 0.152$$

$$\frac{3}{12} \cdot \frac{2}{11} = 0.045$$

$$\boxed{0.288}$$

(c) At least 1 black

$$\frac{9}{12} \cdot \frac{8}{11} = .545$$

$$\boxed{.455}$$

2.30

(a)
$$\frac{28}{95} \cdot \frac{67}{94}$$

$$0.295 \cdot 0.713 = \boxed{0.210}$$

(b)

Fiction Hard cover = 0.137

Fiction Paperback = 0.621

$$\cdot \frac{27}{94} = 0.039$$

$$\cdot \frac{28}{94} = 0.185$$

$$\boxed{0.224}$$

(c)
$$\frac{72}{95} \cdot \frac{28}{95}$$

$$.758 \cdot .295 = \boxed{0.22361}$$

(d) The Sample is large enough that is makes replacement relatively less significant.