2.12: School Absences

1. 100% - (25%+15%+28%) = 100% - 68% = 32%
2. 32% + 25% = 57%
3. 25%+15%+28%= 68%
4. Assuming Independence, then: P(A and B) = P(A) X P(B)  
   .25 \* .25 = .0625 or 6.25%
5. Again assuming Independence (and one sick kid doesn’t increase the chance of another)  
   0.68 \* 0.68 = .4624 or 46.24%
6. For D yes, I think independence is a reasonable assumption. For E, not at all. Knowing kids, the fact that one is sick would greatly increase the others chance of getting ill.

2.14: Weight and Health Coverage

1. P(A and B) = 15,327/428,638 = .0358 or 3.58%
2. P(A or B) = P(A) + P(B) - P(A and B)   
   157,026/428,638 + 44,837/428,638 - 15,327/428,638 = .4352 or 45.52%

2.28: Socks in a Drawer

1. P(Blue and Blue) = 2/12 \* 1/11 = 1/66 = .0152
2. P(No Gray and No Gray)= 7/12 \* 6/11 = 7/22 = 0.318
3. P(2 Blue) + P(2 Black) + P(2 Gray)   
   (4/12 \* 3/11) + (3/12 \*2/11) + (5/12 \* 4/12) = 0.275

2.30 Books on a Bookshelf

1. P(HC and PB-F) = 28/95 \* 58/94 = 0.182
2. As the sample set is so large, the replacement of a single book will not make that much difference to the overall probability.