

Homework Assignment 1

Chapter 1

8. Use the target on page 6
10. (i) Not mutually exclusive and not complementary
(ii) Mutually exclusive but not complementary
(iii) Mutually exclusive and complementary
11. (i) $1/6$
(ii) $2/3$
(iii) $5/6$
(iv) $1/6$
16. $2/3$
17. $4/12 = 1/3$
18. (i) Albert Belle does not get four hits in at least one of the games
(ii) Albert Belle gets no hits in at least one of the games
(iii) Albert Belle gets no hits in the series
(iv) Albert Belle doesn't get four hits in any game
23. $1 - (1/3) = 2/3$

Chapter 2

6. $4 \times (1/4)^2 = 1/4$
7. $(100/250)^4 = (2/5)^4 = 16/625$
15. $1 - (5/6)^6$
17. (i) (1,2) (1,3) (1,4) (2,3) (2,4) (3,4)
(ii) (1,3) (2,4)
(iii) (1,4) (2,4) (3,4)

- (iv) No
 - (v) $(1/2) + (1/3) \neq (1/2)$
 - (vi) (2,4)
 - (vii) $(1/3)(1/2) = 1/6$ They are independent.
18. (i) $(1/3)(4/9) \neq 2/9$ Not independent
20. (i) True
21. (i) $(1/4)(1/13) = 1/52$ Independent
(ii) $(5/53)(14/53) \neq (2/53)$ Not independent
31. $1 - (999/1000)^{1459} = .7677$
32. $1 - (256!/245!) / (256^{11})$
33. $(10,000! / 9270!) / (10,000^{730})$