

Sec 3.3

#7) Select 1R + 1W + 1B  
 $C(3,1) \cdot C(1,1) \cdot C(2,1) = 6$

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#11) out of 6R, 3W, 2B  $\rightarrow$  select 3

At least 1B:

(1B + 2 others) or (2B + 1 other) or  $\binom{3B}{N.P.}$

$$= C(2,1) \cdot C(9,2) + C(2,2) \cdot C(9,1)$$
$$= (2)(36) + (1)(9) = 81$$

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#13) Select 1 out of 13 Rank  
and select 4 out of same Rank + 1 other

$$= C(13,1) \cdot C(4,4) \cdot C(48,1) = 628$$

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#15) order is important  $\rightarrow P(31,2)$

#17)  $2^5$

#19) 20R + 15D  $\rightarrow$  2R + 2D  
 $C(20,2) \cdot C(15,2)$   
 $= 19,950$

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#21)\*

10M & 10F  $\longrightarrow$  3 Selected

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a) select 3  $\longrightarrow C(20,3) = 1140$

b) at least 2F: 2F or more

(2F & 1M) or (3F)

$$C(10,2) \cdot C(10,1) + C(10,3)$$

$$= 570$$

c) at Most 1F: 1F or less

(1F & 2M) or ( $\emptyset$ F & 3M)

$$= C(10,1) \cdot C(10,2) + C(10,3)$$

$$= 570$$

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#23) a) 5 cards  $\longrightarrow$  Same Suit  
or 5 Heart or 5 club or 5 Diamonds  
or 5 Spades

$$= C(13,5) + C(13,5) + C(13,5) + C(13,5)$$
$$= 4 \cdot C(13,5) = 5148$$

b) ~~2~~ 3 clubs  $\longrightarrow$  3 C & 2 others  
 $C(13,3) \cdot C(39,2) = 211926$

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#27) 10 chips  $\longrightarrow$  4 Selected  
2 Def 8 good

a) all 4 are good  $\longrightarrow C(8,4) = 70$

b) 2 Def & 2 good  $\longrightarrow C(2,2) \cdot C(8,2)$   
 $= 28$