第一次作业参考答案

习题一

1.(2) S=$\{2,3,4,5,6,7,8,9,10,11,12\}$

(3) s=$\{x \in N | x \geq 1\}$

(5) s=$\{x \in R | x \geq 0\}$

4. B_1 =$\{$ $A_6, A_4A_5, A_1A_3, A_1A_2\}$

B_2 =$\{$ $A_1A_6, A_1A_2A_5, A_1A_2A_3A_4\}$

5.解： 利用公式

$$A - B = A - AB = A\overline{B}$$

$$A + B = A + (B - A) = A + (B - AB) = A + B\overline{A}$$

或

$$A + B = (A - AB) + AB + (B - AB)$$

于是

$$A + B + C = A + (B + C) = A + (B + C)\overline{A}$$

$$= A + (B + C\overline{B})\overline{A} = A + B\overline{A} + C\bar{B}\bar{A}$$

$$= A + (B - AB) + [C - (A + B)C]$$

6.(1) P(A)=$\frac{2}{5} \times \frac{2}{5} = \frac{4}{25}$

“至少取到一个正品”的对立事件为“取到两个均为次品”，所以$P(B) = 1 - P(A)$.

$P(B) = 1 - P(A) = 1 - \frac{4}{25} = \frac{21}{25}$

(2) $P(A) = \frac{2}{5} \times \frac{1}{4} = \frac{1}{10}$

$P(B) = 1 - P(A) = 1 - \frac{1}{10} = \frac{9}{10}$

(3) $P(A) = \frac{C_2^2}{C_5^2} = \frac{1}{10}$

$P(B) = 1 - P(A) = 1 - \frac{1}{10} = \frac{9}{10}$

8. 记“点数相同”为事件A,“同花”为事件B，则

<法一> $P(A) = \frac{13 \times C_4^2}{C_{52}^2} = \frac{1}{17}$

$P(B) = \frac{4 \times C_{13}^2}{C_{52}^2} = \frac{4}{17}$

<法二> $P(A) = \frac{52}{52} \times \frac{3}{51} = \frac{1}{17}$

$P(B) = \frac{52}{52} \times \frac{12}{51} = \frac{4}{17}$