Date: / /

object:

(1) $^{12}C_4 * {}^8C_4 * {}^4C_4 = 34650$

(2) $3 * 2 * 1 = 6$

(3) $^{12}C_2 = 66$

$P(A) = 4/12 * 3/11 = .1091$

(i) $= P(B) = 8/12 * 7/11 = .4242$

(ii) $= P(\text{at least one}) = 1 - P(B)$

$= 1 - .4242$

$= .5758$

(4) $P(\text{none defective}) = (10/15) * (9/14) * (8/13) = .3275$

$P(\text{exactly one defective}) = (5/15) * (10/14) * (9/13) +$
$(10/15) * (5/14) * (9/13) +$
$(10/15) * (9/14) * (5/13) = .5294$

$P(\text{at least one}) = 1 - P(\text{none defective})$

$= 1 - .3275$

$= .6725$

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object:

(5)

	Boy	girl	
mans	5	10	15
none mans	5	10	15
	10	20	30

$$\frac{10}{30} + \frac{15}{30} - \frac{5}{30} = \frac{20}{30}$$

(6) $P(A^c) = \frac{5}{8}$ $P(B^c) = \frac{1}{2}$

(iii) $\bar{A} \wedge \bar{B} = \overline{A \vee B}$

$1 - (A \vee B) = 1 - (A + B - A \wedge B)$

$= 1 - (\frac{3}{8} + \frac{1}{2} - \frac{1}{2})$

$= \frac{5}{8}$

(iv) $\bar{A} \cup \bar{B} = \overline{A \wedge B}$

$1 - (A \wedge B) = \frac{1}{2}$

(v) $A \wedge \bar{B} = A - (A \wedge B) = \frac{3}{8} - \frac{1}{2} = -\frac{1}{8} \rightarrow \phi$ الوجد احتمال سالب

(vi) $B \wedge \bar{A} = B - (B \wedge A) = \frac{1}{2} - \frac{1}{2} = 0$

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[7] Zero

[8] $K^2 - 8 = 1$

$K^2 = 9$

$K = 3$

[9] $(\bar{A} \cap \bar{B}) = \overline{A \cup B}$

$1 - (A \cup B) = 1 - 0{,}80 = 0{,}20$