

Sunday

الأحد

21

December

٢٣ ذو الحجة / ١٢٠٨ هـ

ديسمبر

٢٠١٢

$$(1) {}^{12}C_4 \cdot {}^8C_4 \cdot {}^4C_4$$

(2)

$$a < b - c$$

$$b < a - c$$

$$c < a - b$$

$$3) i) P(A) = \frac{4}{12} \cdot \frac{3}{11} = \frac{1}{11}$$

$$P(B) = \frac{3}{12} \cdot \frac{7}{11} = \frac{14}{33}$$

$$ii) P(\text{at least one is defective}) = 1 - \frac{14}{33} = \frac{19}{33}$$

$$4) i) {}^{10}C_3 / {}^{15}C_3 = \frac{120}{455}$$

$$ii) {}^5C_1 \cdot {}^{10}C_2 / {}^{15}C_3 = \frac{300}{455}$$

$$iii) 1 - \frac{120}{455} = \frac{335}{455}$$

$$5) \frac{10}{30} + \frac{15}{30} - \frac{5}{30} = \frac{2}{3}$$

$$6) i) P(A^c) = 1 - \frac{3}{8} = \frac{5}{8}$$

$$ii) P(B^c) = 1 - \frac{1}{2} = \frac{1}{2}$$

$$iii) P(A \cup B) = \frac{3}{8} + \frac{1}{2} - \frac{1}{2} = \frac{3}{8}$$

$$P(A \cap B^c) = 1 - \frac{3}{8} = \frac{5}{8}$$

$$iv) P(A^c \cup B^c) = 1 - \frac{1}{2} = \frac{1}{2}$$

$$v) P(A \cap B^c) = P(A) - P(A \cap B) = \frac{3}{8} - \frac{1}{2} = \frac{1}{8}$$

$$vi) P(B \cap A^c) = \frac{1}{2} - \frac{1}{2}$$

2008/٢٠٠٨

Saturday

السبت

20

December

٢٢ ذو الحجة / ١١ كيهك

ديسمبر

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$$7) P(\text{none of three rolls results in sum } 7) = \frac{5}{6} \times \frac{5}{6} \times \frac{5}{6} = \frac{125}{216}$$

$$P(\text{at least one roll is a } 7) = 1 - \frac{125}{216} = \frac{91}{216}$$

$$8) \leq P(x) = k^2 - 8$$

$$1 = k^2 - 8, \quad k^2 = 9, \quad k = 3$$

$$9) P(A \cup B) = 0.35 + 0.45 = 0.8$$

$$P(\bar{A} \cap \bar{B}) = 1 - 0.8 = 0.2$$