Nama : Ricky Muhammad Haruniansyah

NIM : 123240126

Kelas : IF-c

1.

tinggi	Frekuensi	Xi	FiXi	FK
148 – 152	6	150	900	6
153 – 157	11	155	1705	17
158 – 162	14	160	2240	31
163 – 167	9	165	1485	40
168 – 172	3	170	510	43
173 – 177	2	175	356	45
	45		7190	

a. mean : $\dfrac{\Sigma FiXi}{n} = \dfrac{7190}{45} = 159,77$

b. $K1 : LK_1 + \dfrac{n/4 - F}{FK_1} \cdot C$

$\rightarrow$ letak : $\dfrac{1}{4} \times 45 = 11,25 \rightarrow 11 \rightarrow$ ada di kelas 2

$\rightarrow K_1 : 152,5 + \dfrac{11,25 - 6}{11} \times 5 = 154,88$

c. $P_{35} : LP_{35} + \dfrac{35/100 - F}{FP_{35}} \cdot C$

$\rightarrow$ letak : $\dfrac{35}{100} \times 45 = 15,75 \rightarrow$ ada di kelas 2

$\rightarrow P_{35} = 152,5 + \dfrac{15,75 - 6}{11} \cdot C = 156,93$

2. a. $P(RBR) = \dfrac{5}{20} \times \dfrac{15}{79} \times \dfrac{4}{18} = \dfrac{300}{6840}$ ✓

b. P (minimal 2 R) $\rightarrow$ RBR, RRB, BRR, RRR

$P(RBR) = \dfrac{300}{6840}$	$P(RRR) = \dfrac{5}{20} \times \dfrac{4}{79} \times \dfrac{3}{18} = \dfrac{60}{6840}$
$P(RRB) = \dfrac{5}{20} \times \dfrac{4}{19} \times \dfrac{15}{18} = \dfrac{300}{6840}$	P (minimal 2R) :
$P(BRR) = \dfrac{15}{20} \times \dfrac{5}{20} \times \dfrac{4}{20} = \dfrac{300}{6840}$	$\dfrac{300}{6840} + \dfrac{300}{6840} + \dfrac{300}{6840} + \dfrac{60}{6840} = \dfrac{960}{6840}$

3. $P(A \cup B) = P(A) + P(B) - P(A \cap B)$

$$\frac{17}{100} = \frac{56}{100} + \frac{30}{100} - P(A \cap B)$$

$$\frac{17}{100} = \frac{86}{100} - P(A \cap B) \rightarrow P(A \cap B) = \frac{86}{100} - \frac{17}{100} = \frac{69}{100}$$

4. $P(U) = 40\% \rightarrow P(C|U) = 5\%$

$P(P) = 25\% \rightarrow P(C|P) = 4\%$

$P(N) = 35\% \rightarrow P(C|N) = 6\%$

a. $P(U|C) = \dfrac{P(U) \cdot P(C|U)}{P(C)} = \dfrac{0.4 \cdot 0.05}{0.051} = 0.39$

$P(C) = P(U) \cdot P(C|U) = 0.4 \cdot 0.05 = 0.020$

$P(P) \cdot P(C|P) = 0.25 \cdot 0.04 = 0.010$

$P(N) \cdot P(C|N) = 0.35 \cdot 0.06 = 0.021 \quad +$

$$P(C) = 0.051$$

b. $P(N|C) = \dfrac{P(N) \cdot P(C|N)}{P(C)} = \dfrac{0.35 \cdot 0.6}{0.051} = 0.41$

$P(U|C) \lor P(N|C) = 0.39 + 0.41 = 0.80$