

(1.22)

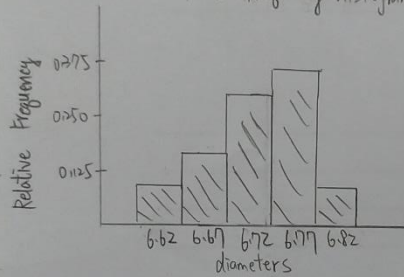
(a) sample mean:  $\frac{6.72+6.77+6.82+6.70+6.78+6.70+6.62+6.75+6.66+6.66+6.64+6.76+6.73+6.80+6.72+6.76+6.76+6.68+6.66+6.62+6.72+6.76+6.70+6.78+6.76+6.67+6.70+6.72+6.74+6.81+6.79+6.78+6.66+6.76+6.76+6.72}{36} = 6.72611111\#$

sample standard deviation:  $\sqrt{\frac{\sum_{i=1}^n (x_i - \bar{x})^2}{n-1}} = 0.1053573862378577204\#$

(b)

class interval	class midpoint	f	relative f
6.60 - 6.64	6.62	3	0.08333333
6.65 - 6.69	6.67	6	0.16666667
6.70 - 6.74	6.72	11	0.30555556
6.75 - 6.79	6.77	13	0.36111111
6.80 - 6.84	6.82	3	0.08333333

relative frequency histogram



(c) the mass of the distribution is concentrated on the right of the figure. So it indicates that the given sample does not come from a population that has a bell-shaped distribution. (这道题是 left-skewed.)

(2.8)

(a)  $A = \{(3,6), (4,5), (4,6), (5,4), (5,5), (5,6), (6,3), (6,4), (6,5), (6,6)\}$

(b)  $B = \{(2,1), (2,3), (2,4), (2,5), (2,6), (1,2), (2,2), (3,2), (4,2), (5,2), (6,2)\}$

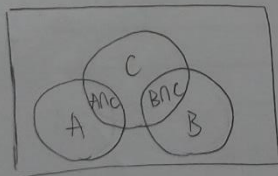
(c)  $C = \{(5,1), (5,2), (5,3), (5,4), (5,5), (5,6), (6,1), (6,2), (6,3), (6,4), (6,5), (6,6)\}$

(d)  $A \cap C = \{(5,4), (5,5), (5,6), (6,3), (6,4), (6,5), (6,6)\}$

(e)  $A \cap B = \emptyset$

(f)  $B \cap C = \{(5,2), (6,2)\}$

(g)



(2.20) (a)  $M' T' V \Rightarrow 6$

(b)  $M V T' \Rightarrow 2$

(c)  $2+5+6$

(d)  $V' \Rightarrow 4+5+7+8$

(2.38) (a)  $6! = 720$

(b)  $3! \times 2! \times 2! \times 2! = 48$

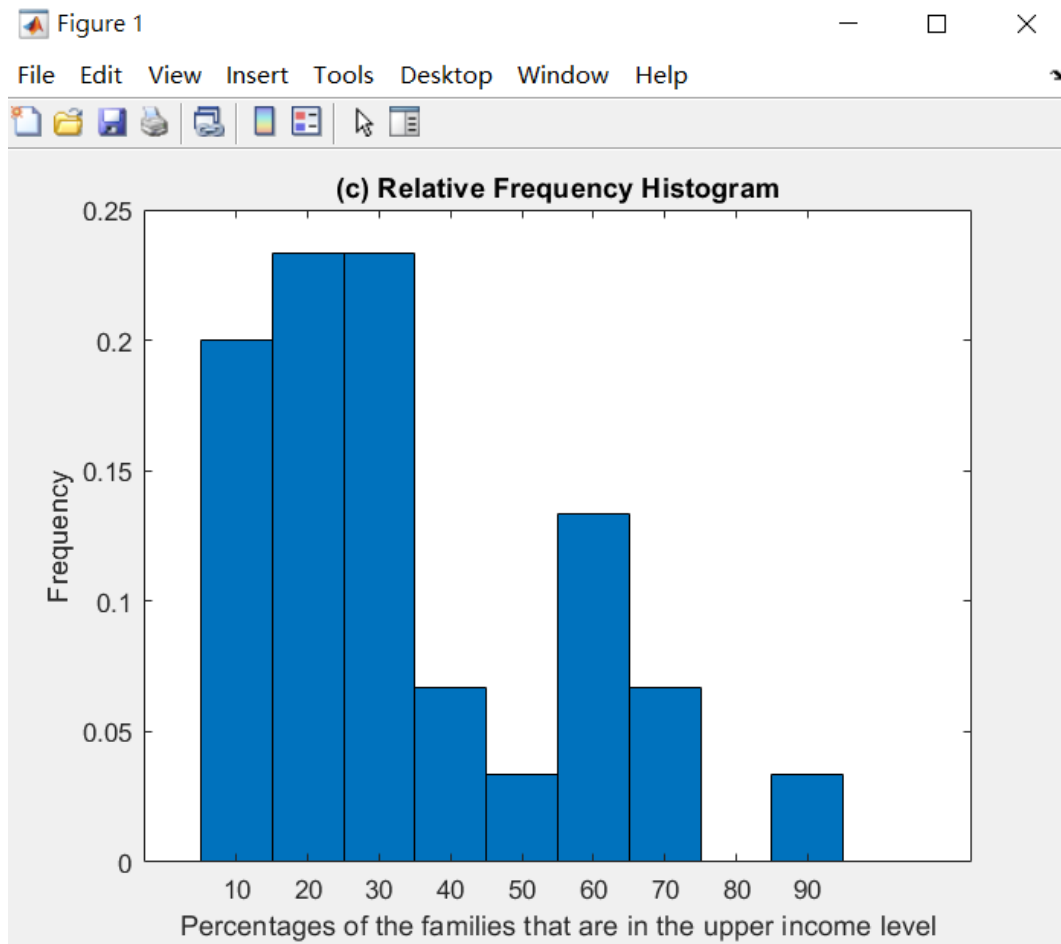
(c)  $3! \times 3! = 36$

1.25

(a) sample mean=33.31

(b) sample median=26.35

(c)



(d) 10% trimmed mean = 30.97

Sample mean > trimmed mean > sample median

由於 data skewed to right，表示資料集中在圖的左邊，使用 10% trimmed mean 之後，可以把左右兩邊各 10% 的資料去掉。在圖右邊的資料相對在圖的左邊的資料而言是比較少的，刪掉左右各 10% 的資料後，可以想像成在圖右邊的資料幾乎被刪光了，而在圖左邊的資料還有很多，而在圖右邊的資料類似於離群值，刪掉離群值算平均數會得到比較可靠的結果

1.30

