

Handwrite

1.22

1.22

(a) 6.6 = 2, 6, 6, 4, 8, 6, 2, 7, 6 $6.6 \times 9 + 0.47$

6.7 = 3, 7, 0, 8, 0, 5, 6, 3, $6.7 \times 8 + 0.31$

(b) 2, 6, 6, 2, 6, 0, 8, 6, $6.7 \times 8 + 0.36$

0, 2, 4, 9, 8, 6, 6, 2 $6.7 \times 8 + 0.37$

6.8 = 2, 0, 1 $6.8 \times 3 + 0.03$

average = $(6.6 \times 9 + 6.7 \times 24 + 6.8 \times 3 + 0.47 + 1.04 + 0.03) \div 36 = 6.726$

(a)

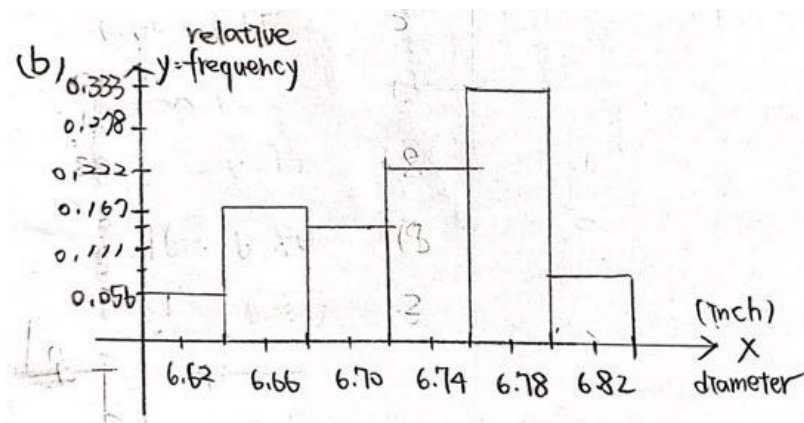
Sample standard deviation:

$$S = \sqrt{\sum_{i=1}^{36} \frac{(x_i - \bar{X})^2}{35}} = \sqrt{\frac{2(6.62 - 6.726)^2 + (6.64 - 6.726)^2 + 4(6.66 - 6.726)^2 + \dots + (6.82 - 6.726)^2}{35}} = 0.053$$

(b)

Class Interval	Midpoint	f	relative frequency
6.60 - 6.64	6.62	2	0.056
6.64 - 6.68	6.66	6	0.167
6.68 - 6.72	6.70	5	0.139
6.72 - 6.76	6.74	8	0.222
6.76 - 6.80	6.78	12	0.333
6.80 - 6.84	6.82	3	0.083

(contain head not
contain tail)



(c)

The sample came from a population that doesn't have a bell-shaped distribution. It appears to be skewed to the left, since its tail is on the left side.

2.8

Sample space = $\{(1,1), (1,2), (1,3), (1,4), (1,5), (1,6), (2,1), (2,2), (2,3), (2,4), (2,5), (2,6), (3,1), (3,2), (3,3), (3,4), (3,5), (3,6), (4,1), (4,2), (4,3), (4,4), (4,5), (4,6), (5,1), (5,2), (5,3), (5,4), (5,5), (5,6), (6,1), (6,2), (6,3), (6,4), (6,5), (6,6)\}$

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)

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

(c)

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

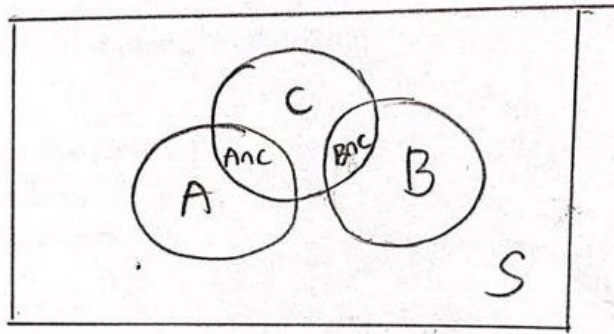
(d)

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

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

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

(9)



2.20

(a) no M and no T, but $V = (M' \cap T' \cap V) = (M \cup T)' - V' = 6, 8 - 8 = 6$

(b) M and V, but no T. $= (M \cap V \cap T') = (M \cap V) - (M \cap V \cap T) = 1, 2 - 1 = 2$

(c) either M or V, but no T. $= (M \cup V) \cap T' = (M \cup V) - (M \cap T) - (V \cap T) + (M \cap V \cap T) = 1, 2, 3, 4, 5, 6 - 4 - 3 - 1 = 2, 5, 6$

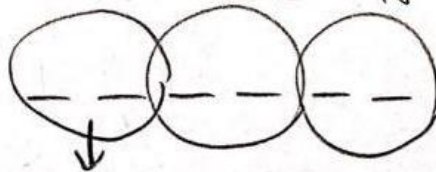
(d) no V $= V' = 4, 5, 7, 8$

2.38

2.38

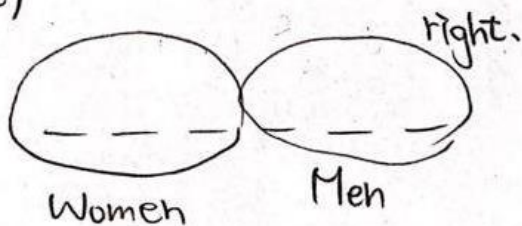
(a) $6! = 720$

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



Man, Woman can Interchange

(c)



$3! \times 3! = 36.$

MATLAB

1.25

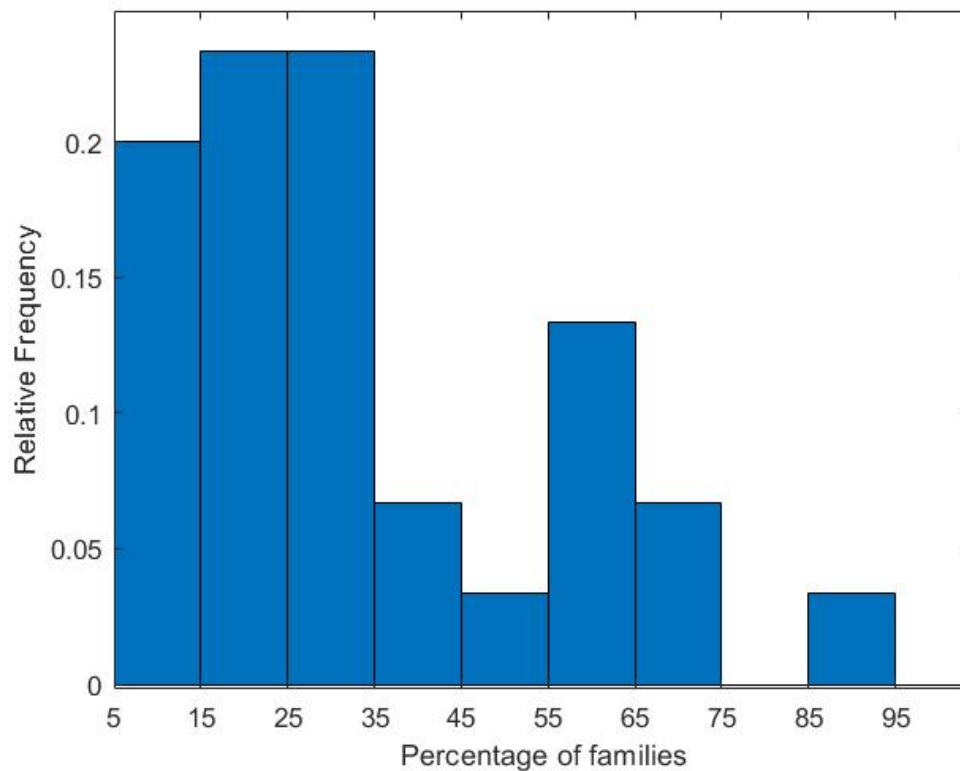
(a)

sample mean=33.31

(b)

sample median=26.35

(c)



(d)

trimmed mean=30.971

(By textbook's defined, 10% trimmed means trimmed the largest 10% and the smallest 10%.)

After see trimmed mean (30.971), sample mean (33.31) and sample median (26.35), we could sample mean is bigger than trimmed mean and sample median.

Which means the data has extreme value in the bigger side.

1.30

