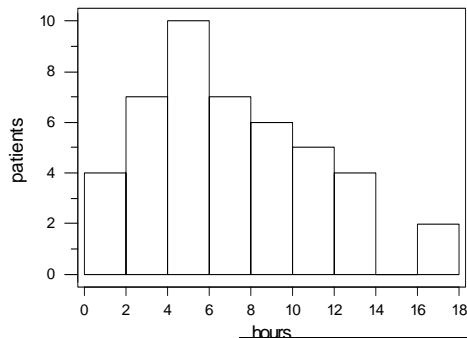


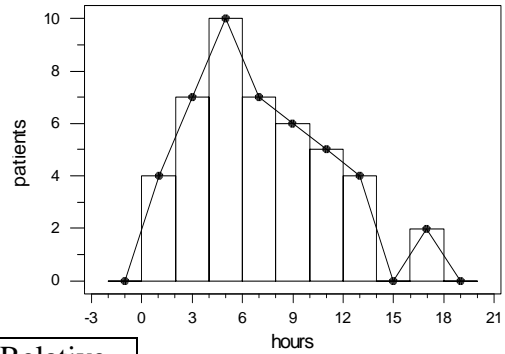
Q 2.3.5

A Histogram



A Frequency Polygon

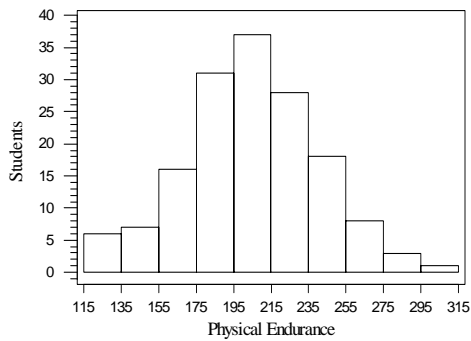
Over a Histogram



Class Interval	Frequency	Relative Frequency
0 - 1	4	0.0889
2 - 3	7	0.1556
4 - 5	10	0.2222
6 - 7	7	0.1556
8 - 9	6	0.1333
10 - 11	5	0.1111
12 - 13	4	0.0889
14 - 15	0	0.0000
16 - 17	2	0.0444
Total	45	1.0

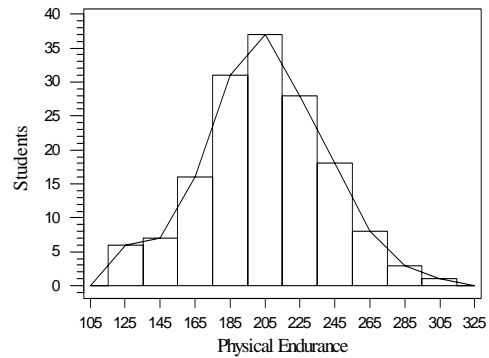
Q 2.3.7

A Histogram



A Frequency Polygon

Over a Histogram



Class Interval	Frequency	Relative Frequency
115 - 134	6	0.03871
135 - 154	7	0.04516
155 - 174	16	0.10323
175 - 194	31	0.20000
195 - 214	37	0.23871
215 - 234	28	0.18065
235 - 254	18	0.11613
255 - 274	8	0.05161
275 - 294	3	0.01935
295 - 314	1	0.00645
Total	155	1.0

Q 2.5.2

Mean = 2.9685714 Median = 3.43 Mode = No Mode
Range = 2.47 Variance = 0.975281 S. Deviation = 0.9875631
Coefficient of Variation = 0.332673

Q 2.5.4

Mean = 22.25 Median = 20 Mode = 17
Range = 20 Variance = 44.9318 S. Deviation = 6.70312
Coefficient of Variation = 0.301264

Q 3.4.4

a) $14/131 = 0.106870$ b) $2/44 = 0.0454545$
c) $2/131 = 0.0152672$ d) $(36+43-15)/131 = 0.48855$

Q 3.4.6

$P(M) = 0.6$, $P(M \cap S) = 0.2$, $P(S|M) = \frac{P(M \cap S)}{P(M)} = \frac{0.2}{0.6} = 0.33333$

Q 3.4.7

$P(D) = 0.35$, $P(S|D) = 0.86$, $P(S \cap D) = P(D) \cdot P(S|D) = (0.35) \cdot (0.86) = 0.301$

E 4

- a) 1. $P(0 \cap D) = \frac{62}{310} = 0.2$, (*0 and D*)
2. $P(B \cup 2) = \frac{86 + 25 - 5}{310} = 0.341935$, (*B or 2*)
3. $P(3|A) = \frac{4}{77} = 0.0519481$, (*3 given A*)
4. $P(C) = \frac{71}{310} = 0.229032$, (*Marginal of C*)
- b) 1. $P(0 \cap D) = \frac{62}{310} = 0.2 = P(D \cap 0)$
2. $P(2 \cup C) = \frac{25 + 71 - 6}{310} = 0.290323 = P(C \cup 2)$
3. $P(A) = \frac{77}{310} = 0.248387 = \frac{49 + 16 + 8 + 4}{310} = \frac{77}{310} = \sum_{J=0}^{J=3} P(A \cap J)$
4. $P(B \cup 2) = 0.341935$, $P(B) = 0.277419$, $P(2) = 0.0806452$,
 $P(B) + P(2) = 0.358065$
5. $P(D|0) = \frac{62}{242} = 0.256198$, $P(D) = 0.245161$
6. $P(C \cap 1) = \frac{7}{310} = 0.0225806$, $P(C) = 0.229232$, $P(1) = \frac{38}{310} = 0.122581$
 $P(C) \cdot P(1) = 0.0280749$
7. $P(A \cap B) = \frac{0}{310} = 0$

$$8. P(2 \cap D) = 0.0193548, P(D) = 0.245161, P(2|D) = \frac{6}{76} = 0.0789474$$

$$P(D) \cdot P(2|D) = 0.0193548$$

$$9. P(B \cap 0) = 0.235484, P(B) = 0.277419, P(B|0) = \frac{73}{242} = 0.301653$$

$$P(B) \cdot P(B|0) = 0.0836844$$

E 6

$$P(> 30 \cup M) = \frac{10+8-2}{25} = 0.64$$

E 8

$$P(C_i) = 0.7, P(C_1 \cap C_2) = P(C_1) \cdot P(C_2) = (0.7)^2 = 0.49$$

E 10

$$P(E \cap R) = 0.6, P(R|E) = 0.8, P(E) = \frac{P(E \cap R)}{P(R|E)} = 0.75$$

E 12

$$P(B \cup S) = P(B) + P(S) - P(B \cap S) = 0.04 + 0.20 - 0.03 = 0.21$$

E 14 Yes .

E 15 *The occurrence of A Or B*

E 16 *A Mother aged 20-24 Or 25-29* E 17 $A \cap B = \phi$, *Disjoint(M.E.)*

E 18 *Yes, No Common Elements.;* *No, C. E.;* *Yes, N. C. E.*

E 19 $\cup = \text{Or}$, $\cap = \text{And}$

E 20 a) *Not (10-15),* b) *less than 30* c) *more than 20*