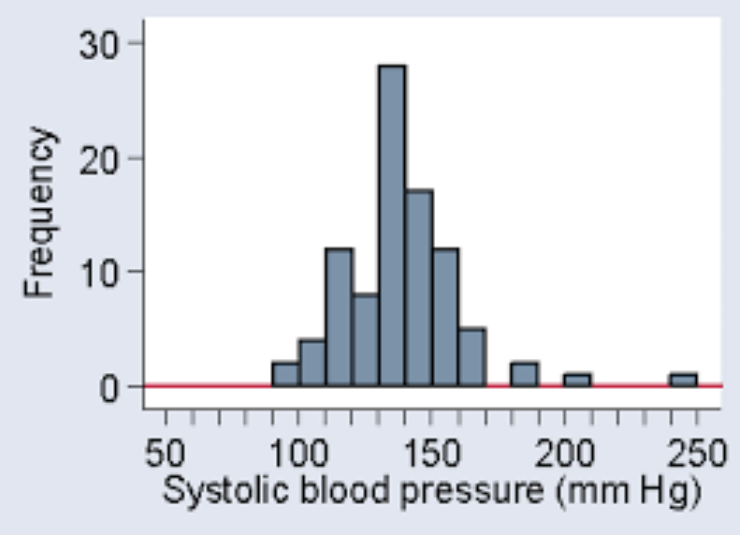
IT3030 Biostatistics Quiz#2 2019.03.19 ID:_____ Name:_____

1. (50%) Given the absolute frequency distribution of systolic blood pressure as shown. (a) (30%) Create a table like the one shown on slide #43 in Lecture 2. (b) (10%) Compute the average blood pressure (2D, or 2 digits after decimal point). (c) (10%) Describe how you would obtain the standard deviation of these blood pressures.



Answer:

$Group_i$	f_i	m_i
90-99	2	94.5
100-109	4	104.5
110-119	13	114.5
120-129	8	124.5
130-139	28	134.5
140-149	17	144.5
150-159	12	154.5
160-169	5	164.5
170-179	0	
180-189	2	184.5
190-199	0	
200-209	1	204.5
210-219	0	
220-229	0	
230-239	0	
240-249	1	244.5
Total	93	

Using Excel to compute for the grouped average blood pressure:

2	94.5	189
4	104.5	418
13	114.5	1488.5
8	124.5	996
28	134.5	3766
17	144.5	2456.5
12	154.5	1854
5	164.5	822.5
0		0
2	184.5	369
0		0
1	204.5	204.5
0		0
0		0
0		0
1	244.5	244.5
93		12808.5
		137.73

2. (50%) Given the same table as in Lecture 3 but different Colorado and Louisiana infant death rates in individual racial groups. (a) (30%) Determine expected deaths (1D) in each of the groups. (b) (20%) Compute the overall death rate (1D) for both states.

U.S.		Colorado		Louisiana	
Race	Live Births	Rate per 1000	Expected Deaths	Rate per 1000	Expected Deaths
Black	641,567	**14.9**		**16.5**	
White	2,992,488	**10.1**		**8.7**	
Other	175,339	**2.3**		**2.9**	
Total	3,809,394				

Live Births	CO Rate per 1000	CO Expected Deaths	LA Rate per 1000	LA Expected Deaths
641,567	**14.9**	9559.3	**16.5**	10585.9
2,992,488	**10.1**	30224.1	**8.7**	26034.6
175,339	**2.3**	403.3	**2.9**	508.5
3,809,394		40186.8		37129.0

10.5 9.7