Topic 7d: Measures of Dispersion

Table 1																							
75	104	112	61	58	78	69	103	109	22	70	73	33	63	89	40	38	91	55	42	71	82	85	66	51
62	66	102	71	57	68	102	102	79	126	21	65	72	106	57	42	55	98	77	68	59	57	64	46	76
64	103	33	71	58	60	110	86	53	79	58	65	46	24	74	56	58	63	91	69	71	44	58	79	49
111	26	111	62	68	62	80	61	59	77	70	28	54	62	61	24	73	36	91	50					

Using R you can generate the population shown in Table 1 by using the command **gnrnd4(key1=390929409, key2=330812115018)**

Find each of the following:

Range: _____

Quartiles: _____

Interquartile Range: _____
Lower limit for outliers: _____
Upper limit for outliers: _____

Standard Deviation (if this is a sample): _____
Variance (if this is a sample): _____

Standard Deviation (if this is a population): _____
Variance if this is a population): _____

Standard deviation for a sample

$$s_x = \sqrt{\frac{\sum_{i=1}^{n} (x_i - \overline{x})^2}{n-1}}$$

Standard deviation for a population

$$\sigma = \sqrt{\frac{\sum_{i=1}^{n} (x_i - \mu)^2}{n}}$$