Math 1001
Take-Home Statistics Activity **Name _____**

Show work to support each solution.

1. The following data represents high temperatures (to the nearest degree Fahrenheit) in Tahiti for the 31 days of January, 2003.

76	74	78	74	81	70	73
82	77	77	72	75	73	76
83	78	76	72	76	81	77
80	75	80	81	74	78	85
76	77	78				

(a) Make a grouped frequency distribution with a first class of 70 – 74 °F.

(b) Construct a histogram for this data with boundaries on the horizontal axis.

2. (a) Here are the prices of bananas (in cents per pound) reported from 15 markets surveyed by the U.S. Department of Agriculture.

51	52	45	48	53	52	50	49
52	48	43	46	45	42	50	

Calculate the following measures of central tendency. Show the critical steps.

Mean	Mode(s)
Median	Midrange

(b) Calculate the standard deviation for this banana cost data. (Round to the nearest tenth of a cent.) Refer to a formula given below, and show the formula setup.

$$s = \sqrt{\frac{\Sigma X^2 - (\Sigma X)^2 / n}{n-1}} \quad \textbf{or} \quad s = \sqrt{\frac{\Sigma (X - \overline{X})^2}{n-1}}$$

3. The following table records the weight of each rower on the 1996 U.S. Olympic men's rowing team held in Atlanta, GA.

154	224	214	195	160	155	195
205	195	195	200	210	210	205
200	215	205	220	210	160	160
208	158	121	207	207		

(a) Find the "five number summary" statistics for this data set. Show the sorted data below and how you select the quartiles.

Min = _____

Q_1 = _____

Med = _____

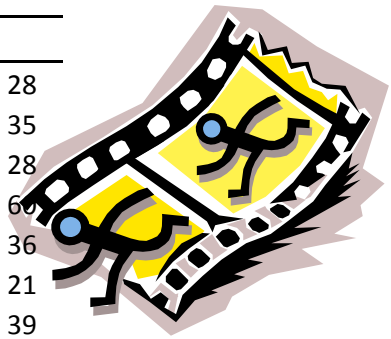
Q_3 = _____

Max = _____

(b) Calculate the range for this data.

4. An interval with lower and upper bounds for a data set, using the quartile approach, is $(Q_1 - 1.5 \times IQR, Q_3 + 1.5 \times IQR)$. The interquartile range (IQR) is $Q_3 - Q_1$. Any value outside this range of acceptability is considered **an outlier**.

"Best Actresses" from 1929-2015									
22	37	28	63	32	26	31	27	27	28
30	26	29	24	38	25	29	40	30	35
32	33	29	38	54	24	25	48	41	28
41	39	29	27	31	38	29	25	35	60
61	26	35	34	34	27	37	42	41	36
32	41	33	31	74	33	49	38	61	21
41	26	80	42	29	33	36	45	49	39
34	26	25	33	35	35	28	30	29	61
32	33	45	29	62	22	44	54		



(a) Draw a box plot (to scale) with the 5 statistics clearly labeled.

Min = _____

Q_1 = _____

Med = _____

Q_3 = _____

Max = _____

(b) Use the interquartile range technique to determine if the Academy Award ages have any apparent outliers. List any outliers you discover. Show your work!