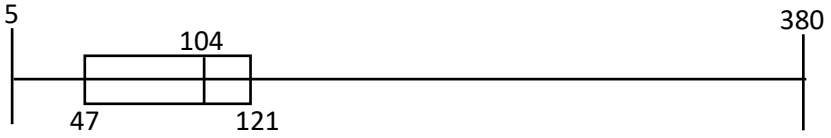
Name:

Elementary Statistics **HW 3.4 Part 3**

1. Shown below is a STATDISK-generated boxplot of the amounts of money (in millions of dollars) that movies grossed (based on data from the Motion Picture Association of America).



   a. What do the displayed values of 5, 47, 104, 121, and 380 tell us?

   b. Use Q_1 and Q_3 to determine if 380 would be considered an outlier.

2. The Weschler Adult Intelligence Scale measures IQ scores with a test designed so that the mean is 100 and the standard deviation is 15. Consider the group of IQ scores that are unusual.
   a. What are the ***z scores*** that separate the unusual IQ scores from those that are usual?

   b. What are the ***IQ scores*** that separate the unusual IQ scores from those that are usual?

3. As of this writing, the tallest living man is Sultan Kosen, who has a height of 247cm and the tallest living woman is De-Fen Yao, who is 236cm tall. Heights of men have a mean of 175cm and a standard deviation of 7cm. Heights of women have a mean of 162cm and a standard deviation of 6cm. ***Relative to the population of the same gender***, who is taller? Explain.

4. Use the given data to *identify the 5-number summary* and *construct a boxplot*.

   The following are speeds (mi/h) of cars measured with a radar gun on the New Jersey Turnpike:

70	70	71	72	72	73	73	74
76	77	78	78	78	79	79	

5. Use the given data sets, construct boxplots for the ages of the best actresses and best actors. Use a single number line with 2 boxplots to compare the distribution of this data.

Best Actresses

22	37	28	63	32	26	31	27	27	28
30	26	29	24	38	25	29	41	30	35
35	33	29	38	54	24	25	46	41	28
40	39	29	27	31	38	29	25	35	60
43	35	34	34	27	37	42	41	36	32
41	33	31	74	33	50	38	61	21	41
26	80	42	29	33	35	45	49	39	34
26	25	33	35	35	28	30	29	61	32
33	45								

Best Actors

44	41	62	52	41	34	34	52	41	37
38	34	32	40	43	56	41	39	49	57
41	38	42	52	51	35	30	39	41	44
49	35	47	31	47	37	57	42	45	42
44	62	43	42	48	49	56	38	60	30
40	42	36	76	39	53	45	36	62	43
51	32	42	54	52	37	38	32	45	60
46	40	36	47	29	43	37	38	45	50
48	60								