Elementary Statistics
Chapter 3 Test Review

1. (35 points) Given the following data:

33	51	73	81	83	91	103	117	132	141	152

181	185	189	192	198	205	305	305	710	715	715

715

Find the following (round to 2 decimal places):

a) Mean

b) Median

c) Sample Standard Deviation

d) Population Standard Deviation

e) Sample Variance

f) Population Variance

g) Mode

2. (15 points) By hand, find the sample standard deviation and sample variance of the following numbers: 1, 8, 23, 40 (round to 2 decimal places)

3. (10 points) The weight, in grams, of the pair of kidneys in adult males between the ages of 40 and 49 has a bell-shaped distribution with a mean of 300 grams and a standard deviation of 25 grams.

    a. About 95% of kidney pairs will be between what weights?
    b. What percentage of kidney pairs weighs between 275 and 375?
    c. What percentage of kidney pairs weighs less than 225 and more than 350?
    d. What percentage of kidney pairs weighs between 250 and 325?

4. (10 points) Given the following distribution:

Ages	Freq
10-29	15
30-49	5
50-69	23
70-89	35

    Find the sample mean and sample standard deviation (round to 2 decimal places)

5. (5 points) Determine which student scored higher relative to their particular class. Janet got 80 and her class' mean was 73 with a standard deviation of 5. Sally got 82 and her class' mean was 77 with a standard deviation of 7. (Show all work to justify your answer)

6. (10 points) Given the following data:

33	51	72	81	82	91	93	97	101	210
305	417	505	567	601	902	1014			

   a) Find the percentile of 567
   b) Find the percentile of 91
   c) Find P_{30}
   d) Find P_{17}

7. (5 points) Given the following data:

5	11	22	23	27	31	45	85	92	105	210

   a) Find the 5-number summary

   b) Draw the box plot

   c) Determine if the data is skewed right, skewed left, or symmetric.

8. (10 Points) Given the following population data:

3	25	27	31	35	41	53	72	85	91	103

107	110	111	112	230	405	713	815	821	822	1505

a) Compute the z-score corresponding to 35

b) Determine the quartiles

c) Compute the interquartile range (IQR)

d) Determine the lower and upper fences, are there any outliers?