Stat 220 Test 2 Name:David Junior

1. Medical students collected the following sample data of survival time from diagnosis of cancer. Find the a) mean b) median c) mode d) midrange e) range

f) standard deviation g) variance h) First Quartile i) Third Quartile

7.5, 5.5, 1.5, 4.8, 9.2, 15.7, 10.8, 6.5, 0.8, 6.5, 4.7, 3.5, 2.4, 2.5, 7.6, 12.5, 2.5, 4.6, 3.3, 1.8

a)5.710 b)4.750 c)6.5 d)7.45 e)14.9 f)3.937 g)15.501 h)2.5 i)7.575

2. a) From Question 1, convert the survival time of 15.7 to a Z-score.

b) In the context of the sample data, is the circumference of 15.7 ‘unusual’? Why or why not?

c) Use the rule of thumb to identify other listed circumferences that are unusual.

1. 2.54 b) its unusual because it is more than 2 standard deviations c) there are none

3. Two tests to measure math skills. Which score is better: A score of 82 on test A, which has a mean of 80 and a standard deviation of 5; or a score of 39 on test B, which has a mean of 35 and a standard deviation of 12. Explain.

82 is better because it has the most extreme of the z scores.

4. The mean age of women is 45.5 years, standard deviation of 15.5 years. Use the range rule of thumb to identify the minimum and maximum ‘usual’ ages. In this context, is an age of 72? Why or why not?

72 is usual because it is within -2 and 2. The minimum age to be considered usual is 15, the maximum is 76.

1. The table below lists the number of child biking riding deaths related to encounters with cars vs. the total deaths for each of several years.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Cars | 47 | 42 | 65 | 50 | 20 | 50 | 45 | 46 | 45 | 73 | 30 |
| Total | 53 | 55 | 101 | 72 | 34 | 67 | 57 | 54 | 59 | 102 | 45 |

Find the

a) mean

b) median

c) mode

d) midrange

e) range

f) standard deviation

g) variance

h) First Quartile

i) Third Quartile

j) Comparing these measures of center and of variation, can we draw any conclusions about these populations?

k) Is there anything unusual about the data?

Cars

a)46.64 b)46 c)45,50 d)26.5 e)53 f)14.38 g)206.85 h)42 i)50 j) cars has less deaths than total but it is almost half of the total k)no

Total

a)63.55 b)57 c)none d)34 e)68 f)21.26 g)452.07 h)53 i)72 j) total has more deaths than cars k)no