Name _____ Block _____ Date _____

Unit 10: Statistics EXTRA PRACTICE

1.) The data below shows the number of hours two groups spent watching television.

Group A: {4, 1, 2, 3, 4, 2, 2}
Group B: {1, 2, 4, 4, 3, 5, 1}

What is the sum of the interquartile ranges between the two groups?

A. 1　　　　　　　　B. 5

C. 4　　　　　　　　D. 3

GROUP A: 4-2=2
GROUP B: 4-1=3

2.) The high temperatures, in degrees Fahrenheit, of several cities were recorded below over a 3-day period.

Monday	62, 68, 71, 73, 65, 79
Tuesday	70, 67, 65, 54, 71, 60
Wednesday	59, 81, 44, 32, 56, 70

Which day had the lowest mean temperature?

A. Monday = 69.7　　　　B. Tuesday = 64.5

C. Wednesday = 57

3.) The high temperatures, in degrees Fahrenheit, for eight cities on the same day are shown below.

71, 39, 69, 65, 78, 70, 74, 76,

Which statement is true about the temperatures?

A. The temperature of 39 causes the distribution to be skewed to the right.

B. The temperature of 39 causes the distribution to be skewed to the left.

4.) Four data sets are shown below.

Set 1: {10, 19, 38, 50, 51} = 16.5
Set 2: {5, 21, 26, 39, 51} = 15.7
Set 3: {9, 38, 50, 50, 51} = 16.03
Set 4: {5, 28, 28, 28, 51} = 14.5

Which data set has the largest standard deviation?

A. Set 1　　　　　　　　B. Set 2

C. Set 3　　　　　　　　D. Set 4

5.) An outlier with the value of 14 is added to the data set 3, 4, 5, 6, and 7. How does the outlier affect the mean and median?

A. The mean increases by 0.5 and the median increases by 1.5.

B. The mean increases by 1.5 and the median increases by 0.5.

C. The mean increases by 1.5 and the median increases by 2.0.

D. The mean increases by 2.0 and the median increases by 1.5.

w/o 14	w/ 14
$\overline{X}$ = 5	$\overline{X}$ = 6.5
med = 5	med = 5.5

6.) Identify whether the following scenarios are examples of correlation or causation.

A. The speed you drive and the amount of fuel you use. __Causation__

B. The number of times you come to tutoring and your test scores improving. __Correlation__

C. Number of followers on social media and number of posts. __Correlation__

D. The amount of cars a salesperson sells and how much commission she makes. __Causation__

7.) The table below shows the height and weight of five players in the starting lineup of a basketball team.

Height (inches)	Weight (pounds)
60	120
64	135
67	142
70	160
71	167

(handwritten next to table: 1.8, .17, -5.3, .2, 8.1)

$y = 4.16x - 131.10$

Based on the line of best fit, what does the residual value for the 60-inch player?

A. The predicted weight is approximately 1.8 pounds less than the player's actual weight.

B. The predicted weight is approximately .18 pounds more than the player's actual weight.

C. The predicted weight is approximately .18 pounds less than the player's actual weight.

D. The predicted weight is approximately 1.8 pounds more than the player's actual weight.

8.) The table below shows average salaries based on the number of years high school graduates attended college.

Yrs of college	Yearly Income
0	$34,736
1	$38,532
2	$41,184 ✓
4	$57,252
6	$68,952
8	$82,732 ✓
10	$85,228 ✓

Approximately what percentage of the values are more than $2,000 off the expected value from the line of best fit?

A) 14%   B) 28%

C) 43%   D) 57%

(handwritten: Residuals > 2000 OR < -2000)

$$\frac{3}{7} \approx 42.8\%$$

9.)

Marsha recorded the time it took six children of different ages to run one lap around the track. Using the line of best fit, which is closest to the length of time it should take Marsha's 8 year old son to run one lap?

Age of Child	Time (Seconds)
4	230
6	205
10	132
13	119
14	108
17	62

A. 168 seconds

B. 176 seconds

C. 182 seconds

D. 190 seconds

(handwritten: X=8)

$y = -12.55x + 276.51$
$y = -12.55(8) + 276.51$
$= 176.11$

10.) The table below, from Wikipedia, shows U.S. casualties in several different wars

In World War II, there were about 405,000 U.S. casualties. Which would be true is World War II were included in the data set?

A) The mean would decrease.
B) The median would be over 100,000.
C) The range would stay the same.
D) World War II would be an outlier.

World War I	1917–18	116,516
Vietnam War	1961–75	58,209
Korean War	1950–53	54,246
American Revolutionary War	1775–83	25,000
War of 1812	1812–15	15,000
Mexican–American War	1846–48	13,283