1. The following are your test score averages, so far this school year.

Unit 1: 92%

Unit 2: 88%

Unit 3: 90%

Unit 4: 89%

Unit 5: 93%

Unit 6: 85%

1. What would happen to the mean if you scored a 56% on the next test?
2. What would happen to the mean if you scored a 90% on the next test?
3. After the 7th test, is it possible for your mean to be a 92? If so, what do you need to score to have a mean of 92?
4. The following are Fred’s test score averages, so far this school year.

How would each of the following be affected by a Unit 7 score of 68%?

1. Mean

Unit 1: 80%

Unit 2: 78%

Unit 3: 60%

Unit 4: 64%

Unit 5: 81%

Unit 6: 67%

1. Standard deviation
2. Range
3. Interquartile Range
4. The following are Richie’s test score averages, so far this school year.

He REALLY wants to have an overall test average(mean) of at least an 80% What does he need to earn on the Unit 7 Test to have an 80%?

Unit 1: 75%

Unit 2: 78%

Unit 3: 81%

Unit 4: 79%

Unit 5: 80%

Unit 6: 78%

**4.** The table below shows the population (in thousands) of North Carolina cities in the year 2010.

|  |  |
| --- | --- |
| **Name** | **Population (in thousands)** |
| Cary | 135 |
| Charlotte | 731 |
| Durham | 228 |
| Fayetteville | 201 |
| Greensboro | 270 |
| Raleigh | 404 |
| Wilmington | 106 |
| Winston-Salem | 230 |

Mount Holly, NC had a population of about 14,000 in the year 2010. Which statement is true if Mount Holly, NC is included in the data?

1. The mean increases Original Mean:\_\_\_\_\_\_\_\_\_\_\_ New Mean: \_\_\_\_\_\_\_\_\_\_\_\_\_
2. The range decreases Original Range:\_\_\_\_\_\_\_\_\_\_\_ New Range: \_\_\_\_\_\_\_\_\_\_\_\_
3. The interquartile range decreases Orig IQR:\_\_\_\_\_\_\_\_ New IQR: \_\_\_\_\_\_\_\_\_\_\_
4. The standard deviation increases Original Sx:\_\_\_\_\_ New Sx: \_\_\_\_\_\_\_\_\_\_\_

**5.** Alex’s scores on the first five Math 1 tests of the year are shown below:

76, 63, 82, 75, 90

 What would happen to the data distribution if Alex scored 40, 77, and 88 on the next three tests?

1. The data distribution would become less peaked and more widely spread.
2. The data distribution would become less peaked and less widely spread.
3. The data distribution would become more peaked and less widely spread.
4. The data distribution would become more peaked and more widely spread.

**6.** A FedEx driver is delivering packages. The truck he drives has a weight maximum of 6,000 pounds. To deliver all the packages, the driver needs to put 200 packages on the truck. He knows some measures from the data set of how much each packages weighed. Which measure of central tendency would be most useful to determine if he can load all the packages safely?

1. mean
2. median
3. mode
4. standard deviation

**7.** The following table of data shows the salaries for each position at a technology company.

|  |  |
| --- | --- |
| **Position** | **Salary** |
| Company President (CEO) | $225,000 |
| Company Vice President | $160,000 |
| Data Analyst | $96,000 |
| Software Engineer | $85,000 |
| Marketing Director | $70,000 |
| Computer Technician | $68,000 |

If the company hired another data analyst who earned $96,000, which of the following statements ***not*** true about the data set if another data analyst is included?

1. The mean increases
2. The median increases
3. The range stays the same
4. The standard deviation decreases

**8.** The table below shows the population (in thousands) of North Carolina cities in the year 2000.

|  |  |
| --- | --- |
| **Name** | **Population (in thousands)** |
| Cary | 145 |
| Charlotte | 630 |
| Durham | 219 |
| Fayetteville | 317 |
| Greensboro | 275 |
| Raleigh | 399 |
| Wilmington | 203 |
| Winston-Salem | 125 |

Conover, NC had a population of about 25,000 in the year 2000. Which statement is true if Conover, NC is included in the data?

1. The range decreases
2. The interquartile range decreases
3. The standard deviation decreases
4. The mean decreases

**9.** Nathan’s scores on the first five Math 1 tests of the year are shown below:

72, 64, 80, 75, 88

 What would happen to the data distribution if Nathan scored 90, 76, and 84 on the next three tests?

1. The data distribution would become less peaked and more widely spread.
2. The data distribution would become less peaked and less widely spread.
3. The data distribution would become more peaked and less widely spread.
4. The data distribution would become more peaked and more widely spread.

**10.** A UPS driver is delivering packages. The truck he drives has a weight maximum of 8,000 pounds. To deliver all the packages, the driver needs to put 200 packages on the truck. He knows some measures from the data set of how much each packages weighed, and one package is much larger and heavier than the other 199. Which measure of central tendency would be most useful to determine if he can load all the packages safely?

1. mean
2. median
3. mode
4. standard deviation

**11.** The following table of data shows the salaries for each position at a technology company.

|  |  |
| --- | --- |
| **Position** | **Salary** |
| Company President (CEO) | $215,000 |
| Company Vice President | $168,000 |
| Data Analyst | $93,000 |
| Software Engineer | $89,000 |
| Marketing Director | $72,000 |
| Computer Technician | $60,000 |

If the company hired another computer technician who earned $60,000, which of the following statements ***not*** true about the data set if another data analyst is included?

1. The mean decreases
2. The median decreases
3. The range stays the same
4. The standard deviation increases