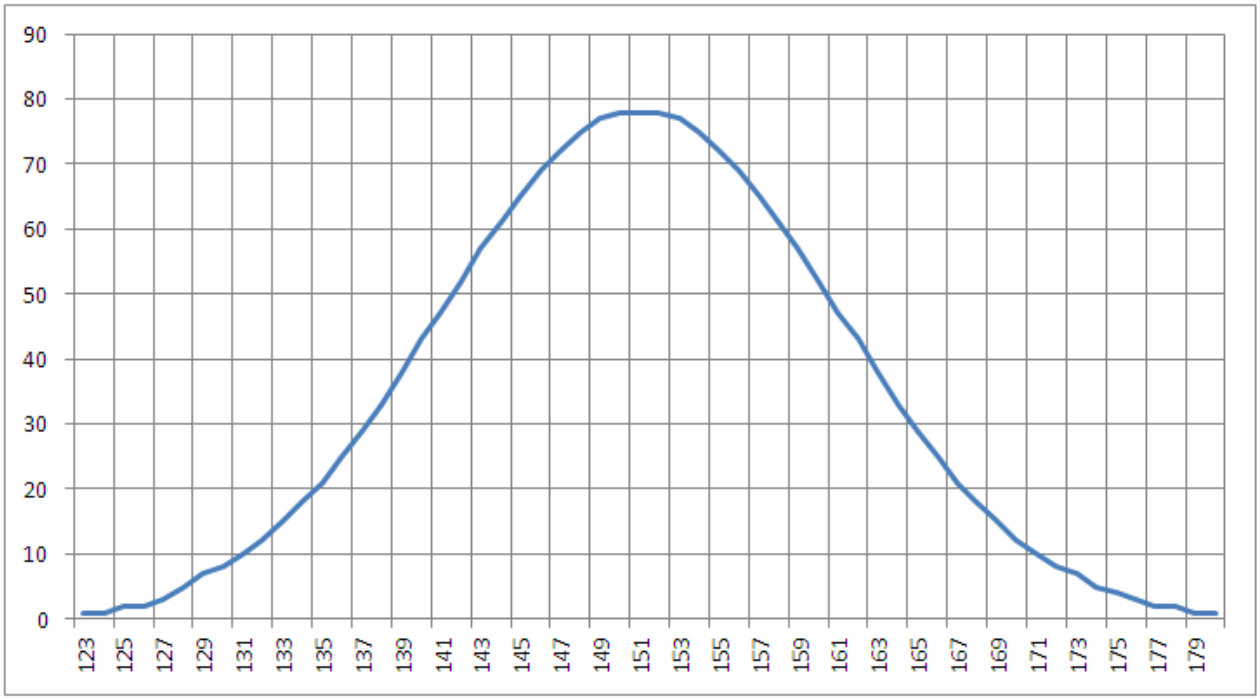
Exploring the World of Math

Name: _____ Date: _____

Normalization Data



1. What is the mean for this normal data curve?
   a. 123 b. 162.25 c. 78 d. 151.5

2. On a Normalization Curve, what can we say about the mean and the median?
   a. The mean is larger b. The mean is smaller c. They are the same

3. What is the name of the point on the curve where the standard deviation occurs? _____

4. Indicate point P on the curve.

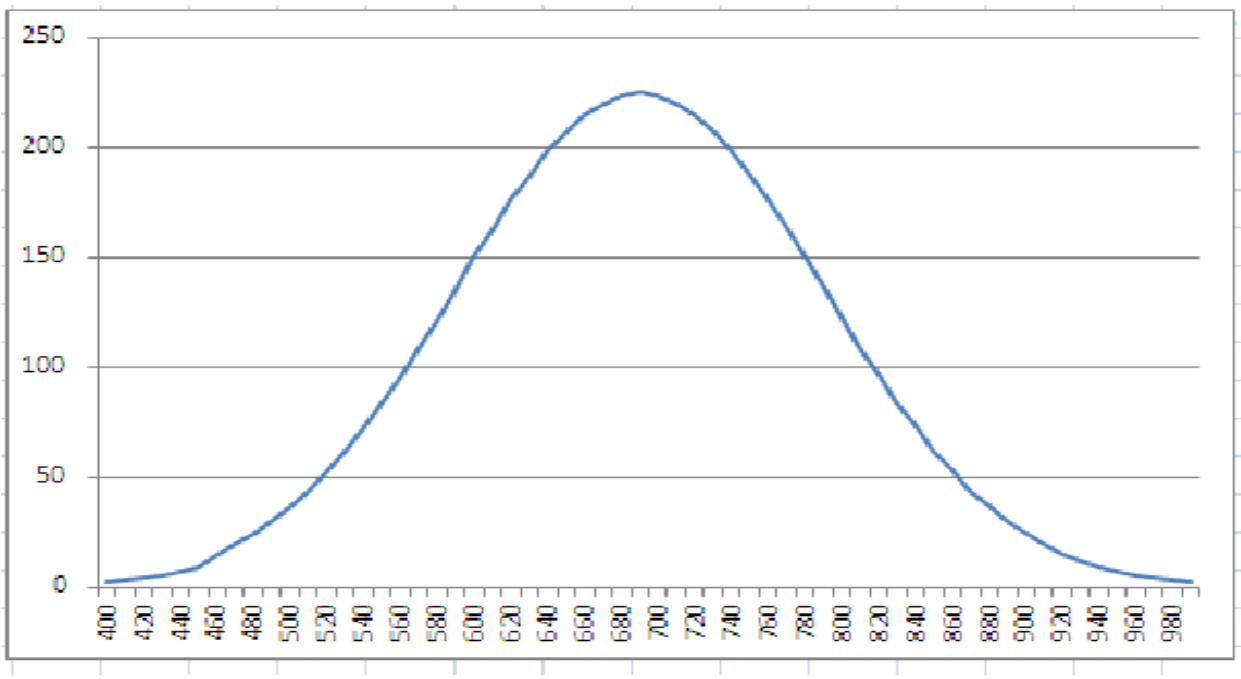
5. What is the standard deviation for this normal data curve?
   a. 45 b. 162.25 c. 10.75 d. 151.5

6. If we collect 1934 data points, estimate how much <u>data</u> is between the standard deviation on both sides of the mean?_____

7. If we collect 1934 data points, estimate how much <u>data</u> is between twice the standard deviation on both sides of the mean?_____

8. If we collect 1934 data points, estimate how much <u>data</u> is between three times the standard deviation on both sides of the mean?_____

9. How many data points will we need to take to see a bell curve?
   a. 10,000 or more b. 500 c. 100 d. 1000



10. The normalization curve above has a mean of 690 and a standard deviation of 103. Compute Q1 and Q4. Draw their lines and label Q1, Q2, Q3 and Q4. Label the line of symmetry.

Q1 calculation	Q4 calculation

11. In the set {21,25,31,38,47,52,44,39,32,24,19}, the median is
    a. 52 b. 31.77 c. 32 d. 33.82

12. In the set {21,25,31,38,47,52,44,39,32,24,19}, the mode is
    a. none b. 52 c. 0 d. 49.5

13. In the set {21,25,31,38,47,52,44,39,32,24,19}, the range is
    a. 19 to 52 b. 19 to 21 c. 21 to 19 d. None

14. Label the process for computing the standard deviation from A to E starting with A.

	Compute the square root of the added sums divided by the number of data points
	Find the difference of each data point and the average of the data points and square it
	Add up all the sums of the squared differences
	Divide the added squared differences by the number of data points
	Find the average of the data points

15. Compute the mean and standard deviation for the following set.

    {21,25,31,38,47,52,48,44,39,32,24,19}

Review: Weighted Average

16. Frank is taking a ten-week Science class and has the following scores in homework, lab, quizzes, and tests. In this class, the instructor weighted the homework at 30%, lab at 40%, quizzes at 10% and tests at 20%. What is Frank's final percent in the class

Category	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Homework	82	79	86	91	87	56	82	79	86	89
Lab	92	94	96	99	100	98	96	89	91	93
Quizzes	84	78	83	86	88	87	91	89	90	83
Tests	93	83	87	88	81	79	92	90	87	90

	Avg	**Weight**	**Score**
Homework		30%	
Lab		40%	
Quizzes		10%	
Tests		20%	
		Grade	

17. Brittney is planning her first vacation in many years, so she is taking her time to judge each site. She has studied each area and scored it with a rating of 1 to 5. She has weighted each category for what is important to her. Shopping is 35%, food is 30%, entertainment is 15%, and weather is 20%. According to her assessment, where should she go on vacation?

Category	**New York**	**Hawaii**	**Miami**	**Cancun**	**Seattle**	**Chicago**	**Atlanta**	**Boston**
Shopping	5	3	3	3	3	5	4	3
Food	4	5	4	5	3	4	4	4
Entertainment	4	4	3	3	2	4	3	3
Weather	2	5	4	5	4	3	4	3
Weighted Score								