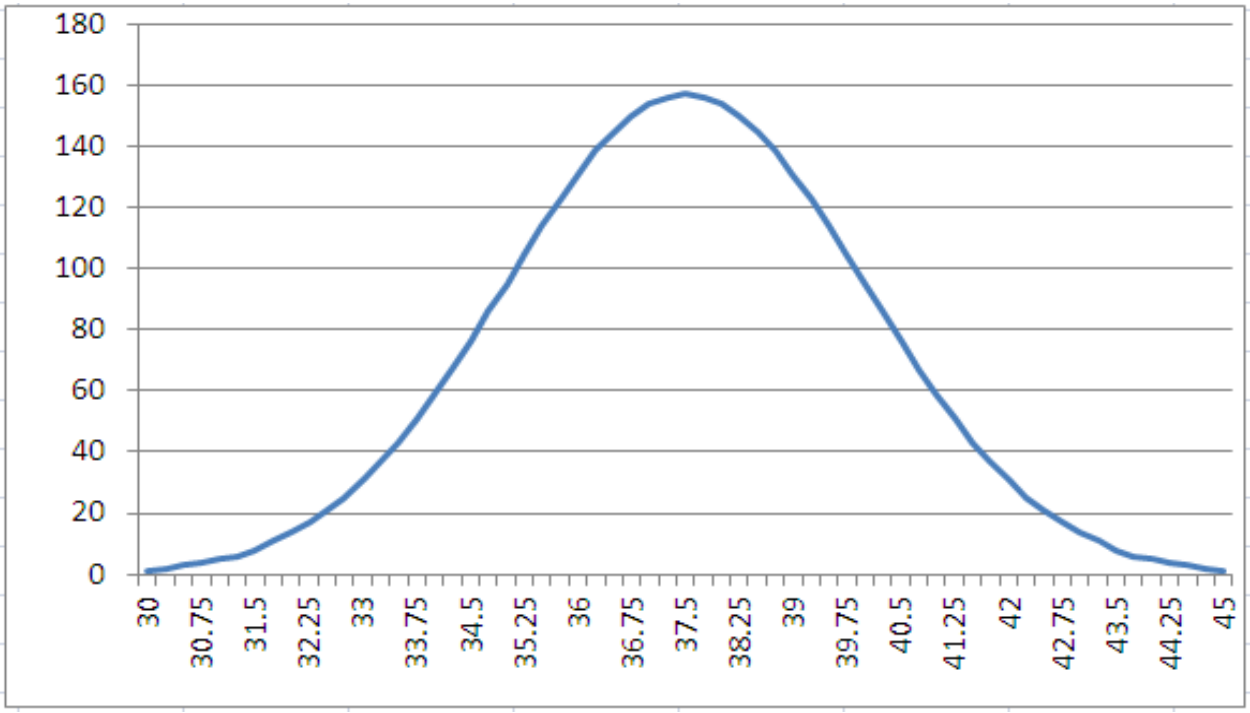
Exploring the World of Math

Name: _____ Date: _____

Normalization Data



1. What is the mean for this normal data curve?
   a. 30 b. 45 c. 155 d. 37.5

2. On a Normalization Curve, what can we say about the mean and the median? _____

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

4. Indicate point P on the curve and what is the standard deviation for this normal data curve?
   a. 42 b. 2.45 c. 90 d. 39.95

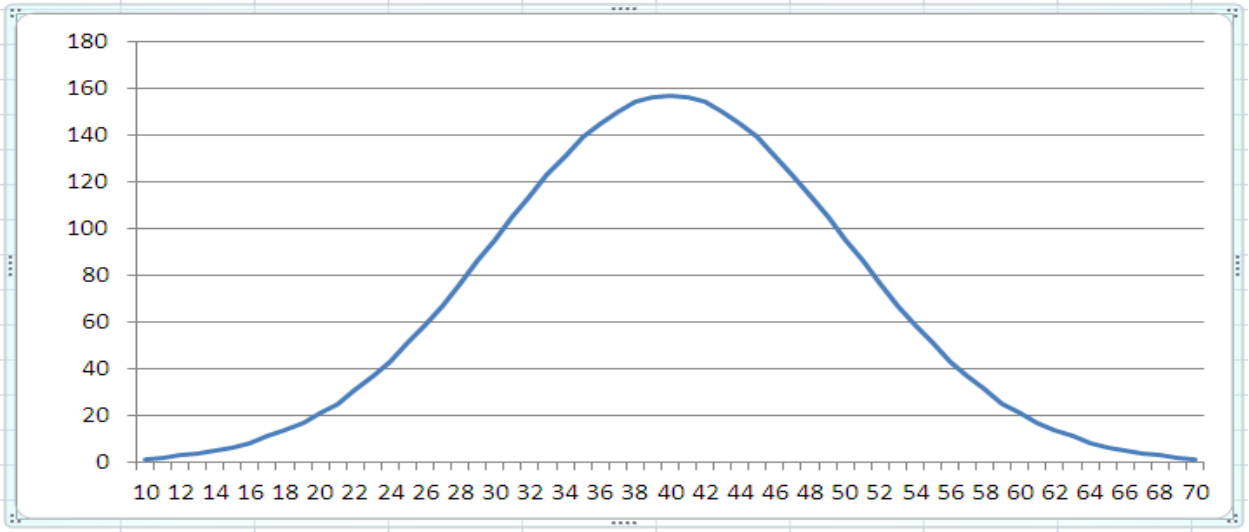
5. How many data points will we need to take to see the best bell curve?
   a. 1,000,000 b. 1000 c. 100 d. 10

6. In the set {8,10,12,14,15,17,16,14,11,7}, the median is
   a. 13 b. 16 c. 15 d. 17

7. In the set {8,10,12,14,15,17,16,14,11,7}, the mean is
   a. 14.2 b. 21.4 c. 12.4 d. 42.1

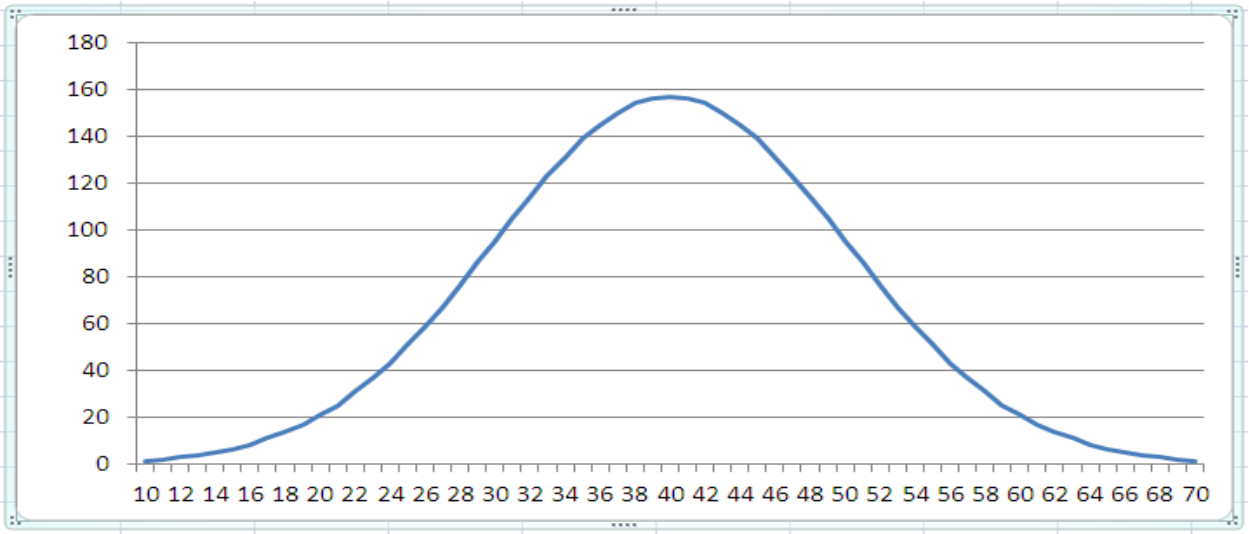
8. In the set {8,10,12,14,15,17,16,14,11,7}, the mode is
   a. none b. 10 c. 16 d. 14

9. In the set {8,10,12,14,15,17,16,14,11,7}, the range is
   a. 7 to 8 b. 13 to 17 c. none d. 7 to 17



10. The normalization curve above has a mean of 40 and a standard deviation of 9.8137. Compute Q1 and Q3. Draw their lines and label Q1, Q2, Q3 and Q4. Label the line of symmetry.

Q1 calculation	Q3 calculation



11. The normalization curve above has a mean of 40 and a standard deviation of 9.8137. Compute below and show and the graph above where 68% of the data will exist using the 68 – 95 99.7 rule.

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

    {8,10,12,14,15,17,16,14,11,7}

Weighted Average

13. Ryan is taking a ten-week Biology class and has the following scores in homework, lab, quizzes, and tests. In this class, the instructor weighted the homework at 20%, lab at 25%, quizzes at 15% and tests at 40%. What is Ryan's final percent in the class

Category	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Homework	95	85	76	82	77	86	84	85	90	94
Lab	91	83	78	86	81	88	90	92	95	98
Quizzes	77	81	81	91	85	93	95	94	89	92
Tests	84	87	89	92	90	89	94	91	89	94

	Avg	**Weight**	**Score**
Homework		20%	
Lab		25%	
Quizzes		15%	
Tests		40%	
		Grade	

14. Captain Debra Smith is arranging for security during the football championship game in her city. She is preparing the risk assessment for her team. She rates each category from 1 to 5 with 5 being the most prepared. Contingency planning is weighted at 15%. Training of personnel is rated at 25%. Environmental conditions are weighted at 10%. Timing for the event is rated at 30% and the level of supervision is rated at 20%. Circle the area of security with the lowest score and is our area of the most concern.

Category	**Securing the area prior to game**	**Bomb detection and disposal**	**Quick Reaction Team**	**Aviation Support and Transportation**
Planned (15%)	4	3	5	3
Trained (25%)	3	3	4	4
Environment (10%)	2	2	1	3
Time to complete (30%)	5	4	3	3
Supervision (20%)	4	4	3	5
Weighted Score				