**Algebra 3-4   
2nd Semester Final**

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Block: \_\_\_\_\_\_\_\_\_  
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**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
 Signature**

**Test Sections Score**

**Unit 5 Probability \_\_\_\_\_\_  
  
Unit 6 Statistics \_\_\_\_\_\_  
  
Unit 7 Radical and Rational Expressions \_\_\_\_\_\_  
  
Unit 8 Exponential and Logarithmic Expressions \_\_\_\_\_\_**

**1st Semester Final \_\_\_\_\_\_  
  
  
  
Chapter 11: (U5) Probability**

Evaluate the following Permutation and Combination. [L2]

1.) 1.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2.) 2.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
  
  
Use the given information to answer the following. [L2]

A bag contains 6 red, 4 green and 5 blue marbles.

3.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
  
  
4.) 4.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   
  
  
Is the following scenario mutually exclusive, not mutually exclusive, both or neither? [L2]

5.) 5.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
  
  
Use the given information to answer the following. [L3]

Matt has 5 math books, and Elizabeth has 8 english books.

6.) How many more ways can Elizabeth organize her 6.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
 books on the shelf than Matt can organize his?

Use the given information to answer the following. [L3]

A bag contains 6 red, 4 green and 5 blue marbles.

7.) 7.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Evaluate the following Permutation and Combination. [L4]  
  
8.) 8.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
 **Chapter 11: (U6) Statistics**

Use the given data to find the following. [L2]

1. Mean 1.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Median 2.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Mode 3.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Range 4.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Use the given data (same as above) to find the following. [L3]

1. Variance 5.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Standard Deviation 6.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Answer the following. [L4]

7.) On the Normal Distribution Curve for the given data, 7.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
 68% of all the date is between what two numbers?   
  
**Chapter 6: (U7) Radical and Rational Expressions**

Evaluate the following, simplify as much as possible. [L2]

1.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2.) 2.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Use the given information to answer the following. [L2]

3.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Use the given information to answer the following. [L3]

5.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Solve the following. [L4]

7.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
  
 **Chapter 7: (U8) Exponential and Logarithmic Expressions**

Rewrite from log form to exponential or exponential to log form. [L2]

1.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
  
  
2.) 2.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Evaluate. [L2]

3.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Solve. [L3]

5.) 5.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6.) 6.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Solve the following. Be specific, no between x and y years. [L4]

7.) If you invest $2500 into an account that has 3.2% 7.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
 interest compounded continuously, how long will  
 it take to double your money?

Match the following formulas we used this semester with their name or expression they equal. [L2]

1. Exponential Decay
2. Compound Continuously
3. Exponential Growth

J.)