Midterm Review AFM: Name:

1. The student government is creating a leadership team composed of sophomores and juniors. Twelve sophomores and 20 juniors apply for the team. The team will be composed of 2 sophomores and 3 juniors. How many different leadership teams are possible from the applicants?

2. Amy has the following test scores in her Civics and Economics class: {92, 78, 100, 83, 97, 95, 100}

Find:

Mean: Standard Deviation: Median: Mode:

Which measure of central tendency would be best representative of Amy's performance in Civics and Economics?

3. Convert to logarithmic form:$8^{-2} = \frac{1}{64}$

4. Convert to exponential form:$\log_5 \frac{1}{125} = -3$

5. Solve using properties of logarithms:$\log_5(x + 9) + \log_5 2 = \log_5 24$

6. Solve using properties of logarithms:$2\log_3 x - \log_3 4 = \log_3 16$

7. In 1910, the population of a city was 120,000. Since then, the population has increased by exactly 1.5% per year. If the population continues to grow at this rate, what will the population be in 2017?

8. Dean has a savings account in which his money is being compounded continuously with a 3% interest rate. After 8 years, Dean's account has a balance of $1,907. What was Dean's initial deposit for this account?

9. Cameron is investing $800 into an account with a 5% interest rate. How long will it take for the account to be $2800 if the money is compounded quarterly?

10. Cameron is investing $800 into an account with a 5% interest rate. How long will it take for the account to double if the money is compounded continuously?