AFM Spiral Review 7

Name:

- 1. Identify the transformations from the parent function $f(x) = x^2$: $f(x) = (x+4)^2 10$
- 2. Identify the domain and the range of the function: $f(x) = 9^{x-1} + 4$
- 3. Find the balance in an account after ten years if an initial investment is made of \$4,500 and the account earns 7.5% interest compounded continuously.
- 4. The population of Dansville, NY was 5,230 in 2016. The population is growing at a rate of 5% yearly. What is the approximate population in 2025?
- 5. Identify the domain and range of the function in question #1:

Domain: Range:

- 6. A student at UNC Chapel Hill was conducting research to determine the study habits of college students. She decides to survey every 5th person leaving the library on a Saturday afternoon. Determine what bias she may encounter in her research.
- 7. Raymond scored a 94 on his World History Midterm. This score was exactly 3 standard deviations above the mean. If the data was normally distributed with a standard deviation of 3, what was the mean of the midterm exam scores?
- 8. Convert to logarithmic form: $7^{-3} = \frac{1}{343}$
- 9. Solve using Common Logarithms: $2^{x+3} = 241$
- 10. Identify the correct asymptote {horizontal/vertical}, and in equation form, for the following functions:

A.
$$f(x) = 3^{x-7} + 4$$

$$B.f(x) = \log_3(x+1) - 8$$