Accel. PreCalculus Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Average Temperature Investigation Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Go to [www.weather.com](http://www.weather.com) to research average temperature data for Alpharetta. Type Alpharetta, GA into the search bar then click on “Monthly” in the bar at the top of the screen. Scroll down until you see the line graphs. Uncheck everything except “Average High” and “Average Low.”
2. Sketch a graph of what you see.
3. Calculate the midline for Alpharetta and add it to your sketch.
4. Interpret the midline in the context of the data.
5. Calculate the amplitude for Alpharetta and interpret it in the context of the data.
6. Calculate the period for Alpharetta and interpret it in the context of the data.
7. Label the amplitude and period in your sketch.
8. Make a prediction about how data for Death Valley, CA will compare to data for Alpharetta. Use the language of graphical transformations to compare and contrast the two cities.
9. Make a prediction about how data for Monteal, Canada will compare to data for Alpharetta. Use the language of graphical transformations to compare and contrast the two cities.
10. Make a prediction about how data for Sydney, Australia will compare to data for Alpharetta. Use the language of graphical transformations to compare and contrast the two cities.
11. Make a prediction about which places in the world would have data with the largest amplitude and the smallest amplitude? Why?
12. Make a prediction about which places in the world would have data with the largest phase shifts compared to Alpharetta. Why?