Please insert the requested items in the space provided. Please do not use more than the space provided. If your submission does not adhere to this template, points will be deducted from your assignment.

Insert figure here, with border and caption.

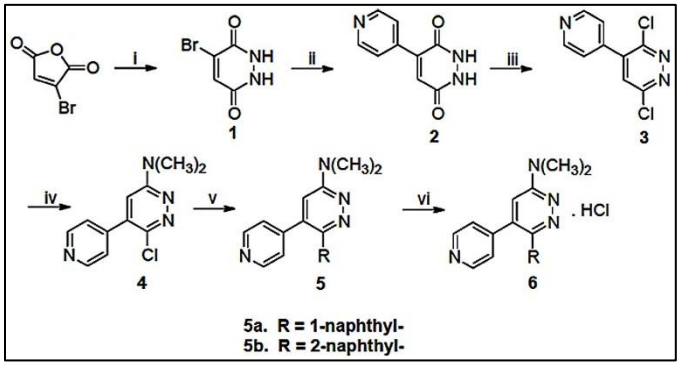

Figure 1*. A Synthetic Scheme for Chemistry*

Type your first and last name below

Kevin Lei

Insert table of elements with property, with border, caption, and citation.

***Table 1**. Boiling Points of a Series of Elements.* [1]

Element	Atomic Number	Boiling Point (K)
Aluminum	13	2792
Silicon	14	3173
Phosphorous	15	553.6
Sulfur	16	717.87
Chlorine	17	239.11

[1]Periodic Table, https://ptable.com/#Properties (accessed September 4, 2022).

Insert table of elements with property and mathematical transformations (from MS-Excel) here, with border, caption and citation.

***Table 2.** Boiling Points of a Series of Elements in Different Units with Inverse and Natural Log Transformations.* [2]

Element	Atomic Number	Boiling Point (K)	Inverse	Log	Boiling Point (°C)	Boiling Point (°F)
Aluminum	13	2792	0.000358166	3.445915414	2518.85	4565.93
Silicon	14	3173	0.000315159	3.501470072	2899.85	5251.73
Phosphorous	15	553.6	0.001806358	2.743196081	280.45	536.81
Sulfur	16	717.87	0.00139301	2.856045804	444.72	832.496
Chlorine	17	239.11	0.004182176	2.378597739	-34.04	-29.272

[2]Periodic Table, https://ptable.com/#Properties (accessed September 4, 2022).

Insert graph 1 here, with caption.

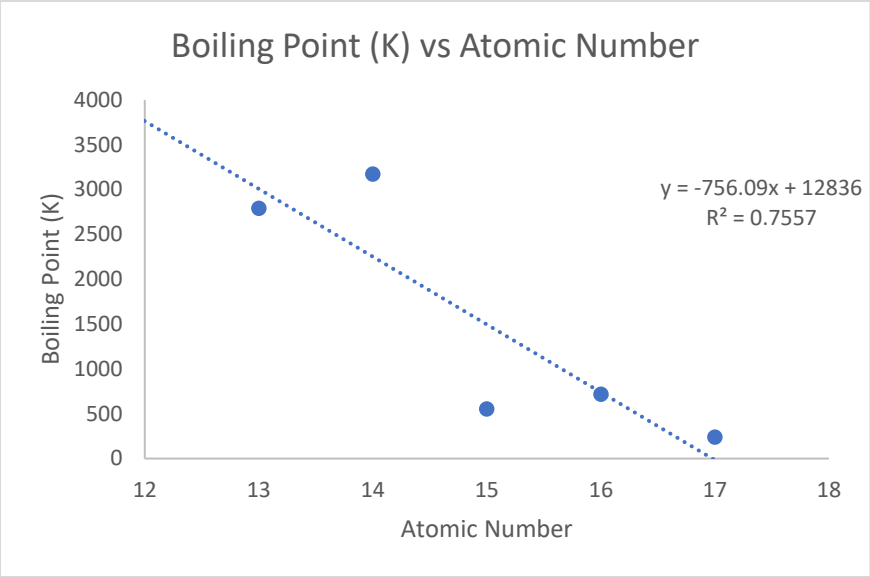

Figure 2*. Graph of the Boiling Point of Elements in Kelvin vs their Atomic Numbers.*

Insert graph 2 here, with caption.

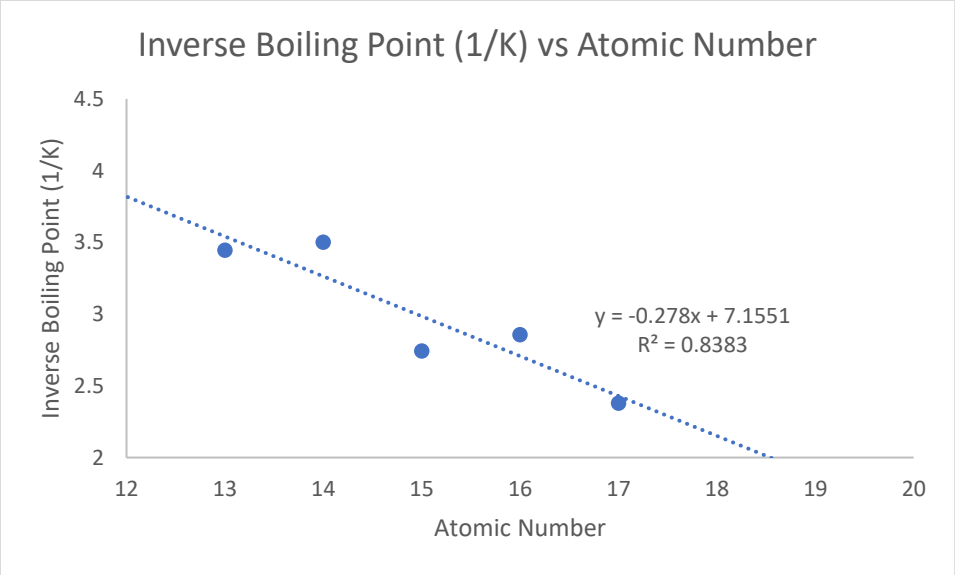

Figure 3. *Graph of the Inverse Boiling Point of Elements in Kelvin vs their Atomic Numbers.*

Insert graph 3 here, with caption.

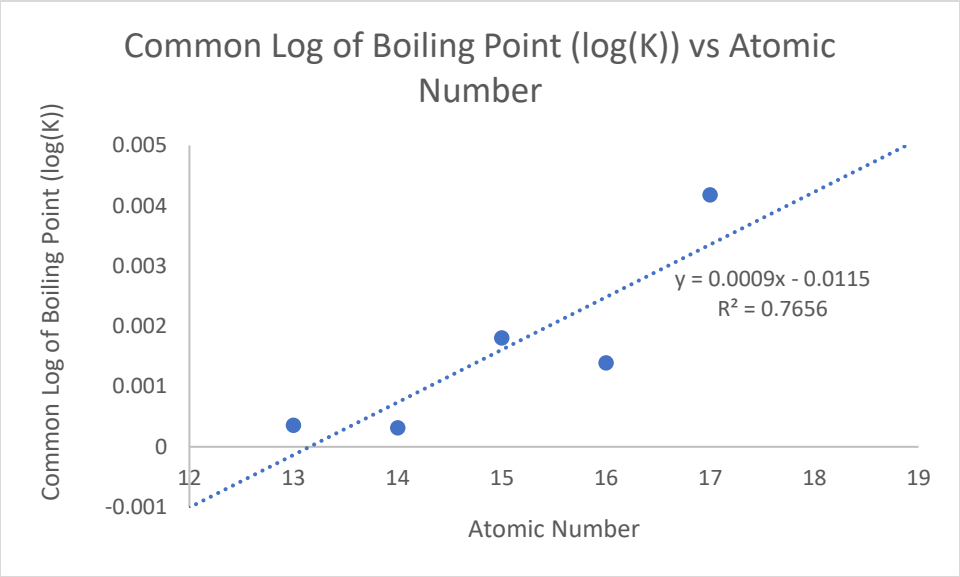

***Figure 4**. Graph of the Common Log of the Boiling Points of Elements in Kelvin vs their Atomic Numbers.*

Insert graph 4 here, with caption.

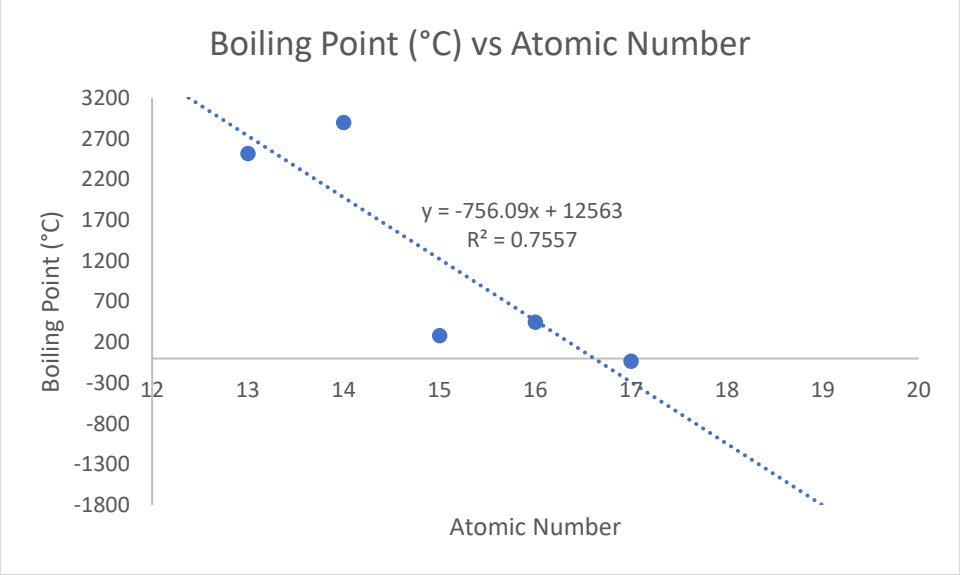

***Figure 5**. Graph of the Boiling Point of Elements in Celsius vs their Atomic Number.*

Insert graph 5 here, with caption.

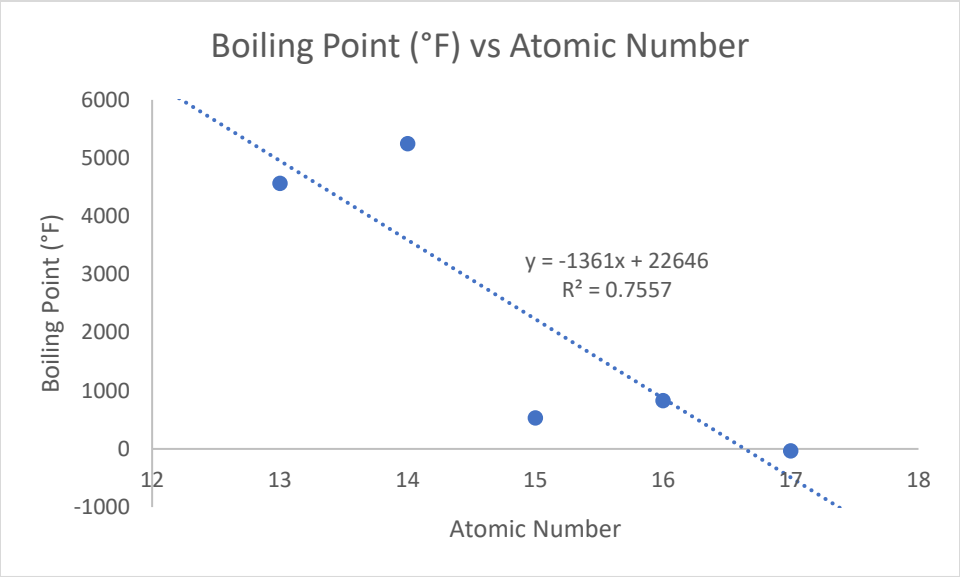

Figure 6*. Graph of the Boiling Points of Elements in Fahrenheit vs their Atomic Numbers.*

Insert graph 6 here, with caption.

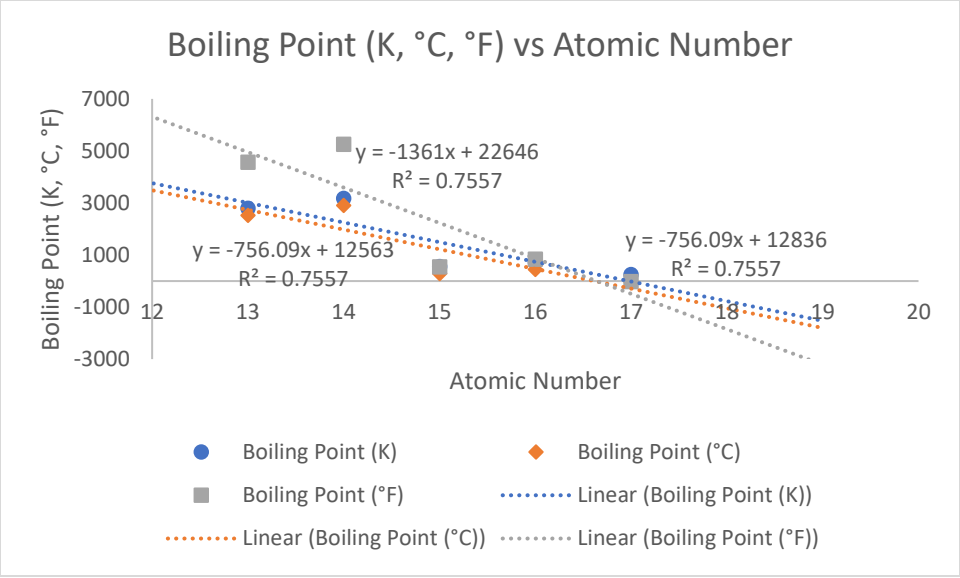

Figure 7. *Graph of the Boiling Points of Elements in Kelvin, Celsius, and Fahrenheit vs their Atomic Numbers.*

Respond to the following two questions in the space provided.

1. Make a table like the one below and fill in the values from your graphs.

Graph	x-Axis Label	y-Axis Label	Equation Of Best Fit Line	R^2 Value
Direct	Atomic Number	Boiling Point (K)	y = -756.09x + 12836	0.7557
Inverse	Atomic Number	Inverse Boiling Point (1/K)	y = -0.278x + 7.1551	0.8383
Logarithmic	Atomic Number	Common Log of Boiling Point (log(K))	y = 0.0009x - 0.0115	0.7656
°C	Atomic Number	Boiling Point (°C)	y = -756.09x + 12563	0.7557
°F	Atomic Number	Boiling Point (°F)	y = -1361x + 22646	0.7557

2. Choosing between "Direct", "Inverse", and "Logarithmic"; which has an R^2 value closest to 1?

   Inverse

3. Why are the R^2 values for the temperature plot in K, °C, and °F the same?

   The R^2 values for the temperature plot in Kelvin, degrees Celsius, and degrees Fahrenheit are the same because converting from Kelvin to degrees Celsius or degrees Fahrenheit only requires multiplication by a constant and/or addition of a constant, which means the relationship between dependent and independent variables remain linear. Essentially, the average distance from the points to their respective trendlines remain the same for each of the three units.

This is the end of your assignment. You should now save this as a pdf and submit it to Gradescope. Remember to tag pages while submitting to Gradescope.