Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per.\_\_\_\_\_\_ **\_\_\_ points**

**Algebra: Slope/Linear Equations Choice Board**

**Directions:** Choose TWO tasks from this board to complete **(you are completing TWO tasks total).**  Use your notes, textbook, and digital resources to help you complete your project. Choose your problem numbers and attach this page to your final project that you turn in. Be creative! Make sure your name is on everything that you turn in.

Problem #\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Problem #\_\_\_\_\_\_\_\_\_\_\_

**Due Date:**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Write FOUR equations that would have the following properties:

* + a slope-intercept form equation with a positive slope and a negative y-intercept • a slope-intercept form equation with a negative slope and y-intercept of 0
  + a vertical line
  + a horizontal line

You must provide a **graph** of ALL FOUR of your linear equations – they must be neatly drawn on GRAPH PAPER.

1.Your friend was absent the days that the following concepts were introduced. Write a detailed letter to your friend explaining ALL of them. You must provide detailed examples.

* + Slope formula
  + Slope-Intercept Form
  + Writing Linear Equations o make sure you address what the forms are and when they are used

4. Graph the equation x – 3y = 12 using the 3 different methods listed below explaining the steps in writing or in a brief video.

Table of Values

Slope-Intercept Form

X, Y intercept

3. Research the connection between degrees Celsius and degrees Kelvin. Graph this linear relationship on graph paper. Using two points from your line, write an equation in slope-intercept form for the real world relationship between degrees Celsius and degrees Kelvin.

6. Using a digital camera, your own photos, or pictures in magazines/newspaper (NO PICTURES FROM INTERNET), create a scrapbook of “Line Pictures”. Your scrapbook should include at least SIX pictures that each have different slopes.

* + 2 positive slopes
  + 2 negative slopes
  + 1 zero slope
  + 1 undefined slope

Calculate each slope and record it on its page in the scrapbook. You need graph paper to complete this. You must include the graph paper.

1. Create FOUR sets of two ordered pairs so that the slope of the line is one of each of the following:
   * positive
   * negative
   * zero
   * undefined

Use BOTH a graph AND the slope formula as proof. You must do this for all four sets of two ordered pairs.