Part 1 Essential questions to go in skinny notebook for summer assignment

1. What is a useful tool for converting metric units? How many times and in what direction do you move the decimal point to go from grams to kilograms? How many times and in what direction do you move the decimal point to go from centimeters to meters?

2. If I ask you to graph Velocity vs. time, which one would go on the y-axis?

3. In general, do you connect the data points on a graph?

4. What are things that should be included on the graph when making a graph of data?

5. How do you know what shape a graph will be by looking at its equation?

 Examples – If I ask you to graph F vs. a and the equation given is F=ma, what will be the shape?

 If I ask you to graph K vs. v and the equation given is K= ½ mv2, what will be the shape?

 If I ask you to graph λ vs. f and the equation given is v=λf, what will be the shape?

6. If given a graph and asked what the slope represents, what should you do?

7. What does it mean to linearize data?

8. What are the 2 parts included in designing an experiment?

9. What is a useful tool in remembering trig ratios?

Part II Free Response

1. A ball on the end of a string of length L = 0.50 cm is hung from a hook in the ceiling. The ball is pulled back to an angle of 30° from the vertical. What is the height h above the lowest point of the ball? (Hint: You need to make a right triangle and then use trigonometry)

L = 0.50 m

L = 0.50 m

θ

30°

h = ?

2. The following data were determined for an object dropped from rest near the surface of the moon. Make a graph of distance vs time. Then linearize and write an equation that describes the relationship between the distance fallen by the object and the time required to fall that distance.



