Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Kepler’s Law Activity

1. Go to this website: [www.pearsonhotlinks.co.uk/](http://www.pearsonhotlinks.co.uk/)
2. In the Express Code box, enter 4426P
3. Click on the link for our textbook (it’s the only one there)
4. Scroll down to chapter 6 and click on it
5. Click on Weblink 6.2: Database for finding time period and radius of the planets
6. You will see a picture of the solar system (including Pluto!) If you click on the planet, you will see a variety of data about that planet.
7. You will need to collect the orbital period (T) and orbital radius (mean distance to the sun) for each planet using Excel. You will need to convert the orbital period to seconds (1 year = 3.16 x 107 s) and the mean distance to the Sun (R) in meters
(1 km = 1000 or 103 m)
8. After you collect the data for all of the planets, create a graph of T2 vs R3
9. Add a best fit or trend line and find its slope. Record that here:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
10. Determine the value of $\frac{4π^{2} }{G M\_{sun}}$ (Msun = 1.99 x 1030 kg)
Show you work and answer here:
11. Compare the slope of the T2 vs R3 to your answer in step 10.