Name_____ Date_____

LAB: LOGARITHMIC GRAPHING

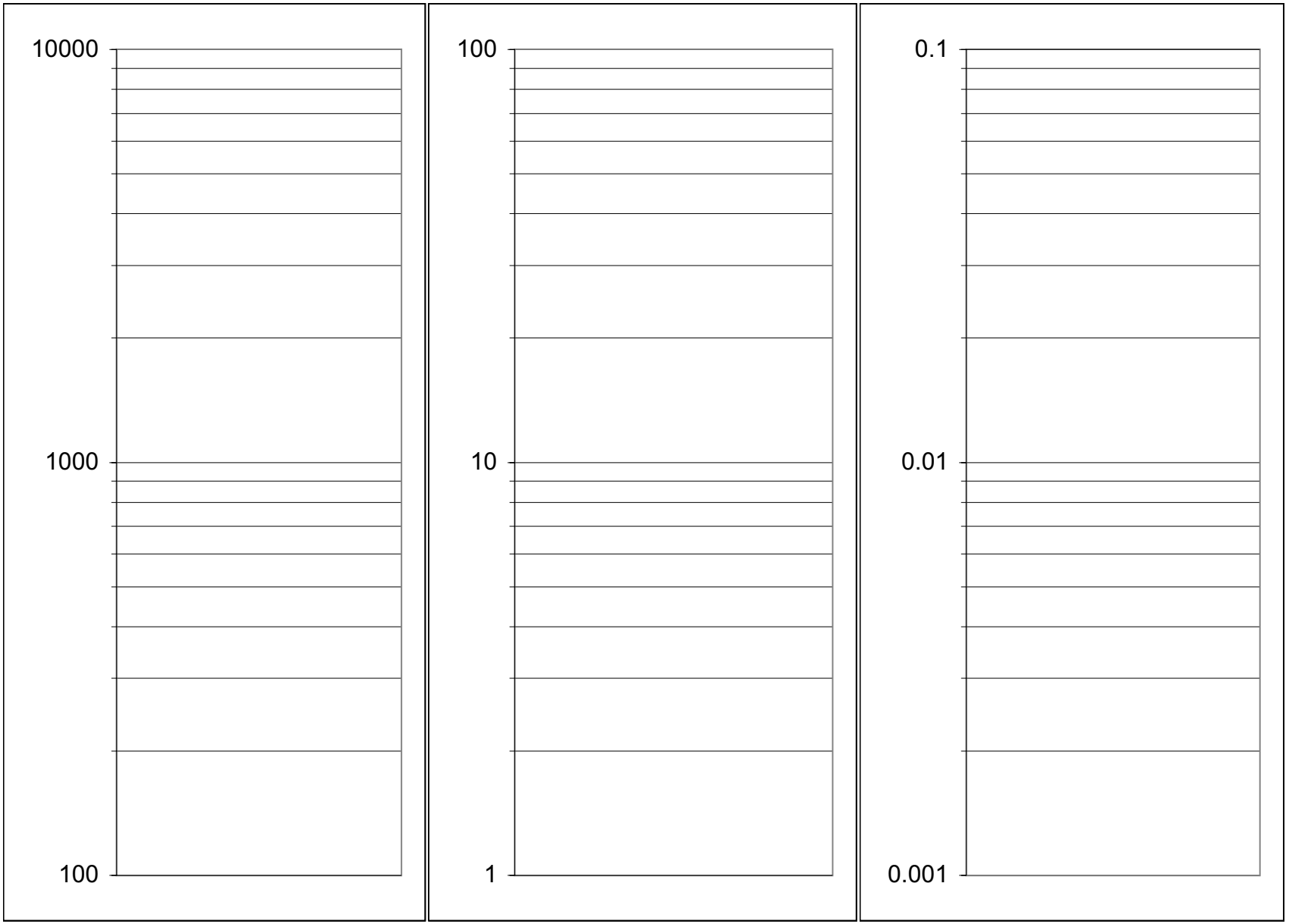
1. How does a "logarithmic" scale work? Label the missing numbers on the three logarithmic scales.
2. Plot the "Asteroid Data" below on the graph, "Graphing the Density of Asteroids."

Asteroid Data

	Volume (mL)	Mass (g)		Volume (mL)	Mass (g)
1	617	7834	**16**	124	1612
2	0.066	0.84	**17**	6.5	82
3	0.62	8	**18**	4.5	58
4	0.006	0.08	**19**	0.47	6
5	318	4042	**20**	26.8	349
6	2117	27097	**21**	0.31	4
7	0.0006	0.0079	**22**	3096.6	39637
8	7291	94788	**23**	770.4	9938
9	0.021	0.27	**24**	4.9	64
10	0.00063	0.008	**25**	0.0043	0.054
11	0.698	9	**26**	66.3	848
12	35.8	466	**27**	0.062	0.8
13	22.1	281	**28**	6351.69	82572
14	1.4	18	**29**	0.044	0.56
15	0.0063	0.081	**30**	0.0005	0.0064

SUMMARY:

1. Why are logarithmic scales useful in Earth Science?
2. Draw a straight trendline (best fit line) on the graph.
3. What is the average density of the asteroids? (HINT: Determine the slope of your trendline... Slope=rise/run, so... Slope=mass/volume or Slope=Density!!!)
4. How does this average density compare to the density of Earth's inner core? Is this a coincidence? Explain.


10000
1000
100
100
10
1
0.1
0.01
0.001

Graphing the Density of Asteroids