## More Density Grapfi Questions

1. A student measured the masses of some aluminum and copper cylinders of different volumes. The information is displayed below.

Aluminum

| $\mathbf{m L}$ | mass (g) |
| :---: | :---: |
| 4.38 | 31.71 |
| 5.07 | 33.58 |
| 5.75 | 35.44 |
| 6.08 | 36.28 |
| 6.38 | 37.12 |

## Copper

| $\mathbf{m L}$ | mass (g) |
| :---: | :---: |
| 4.21 | 31.54 |
| 4.63 | 34.81 |
| 5.00 | 38.07 |
| 6.07 | 47.20 |
| 6.68 | 52.23 |
| 7.38 | 58.12 |
| 8.17 | 64.57 |
| 9.30 | 73.56 |

a) Graph this data on one graph.
b) Calculate the density of each metal using the graph.
c) Which sample is more dense?
2. Consider the following graph:

Mass Versus Volume
a) By looking at the graph, which sample was the least dense?
b) Calculate the density of each sample.
c) What mass of salt water had a volume of 55 mL ?
d) What volume of alcohol had a mass of 20 g ?
e) If a solid with a density of $0.92 \mathrm{~g} / \mathrm{mL}$ was placed in a beaker containing all three of these liquids, where would it be situated?


b) Aluminum: $2.7 \mathrm{~g} / \mathrm{mL}$; Copper: $8.2 \mathrm{~g} / \mathrm{mL} \quad$ c) copper
2.a) alcohol b) alcohol: $0.86 \mathrm{~g} / \mathrm{mL}$; water: $1.01 \mathrm{~g} / \mathrm{mL}$; salt water: $1.06 \mathrm{~g} / \mathrm{mL}$
c) 59 g
d) 25 mL
e) floating on the water at the bottom of the alcohol layer

