**Name**_____ **Section**_____ **TA**_____

1. A student measures an unknown metal sample to have a volume of 34.59 mL and a mass of 303.7417 grams. Report the density of the metal to the correct number of significant digits. Show your work.

2. The class average and standard deviation for all the students who had that same metal unknown is 9.002156 ± 0.11687453 g/mL. Report the class average density to the correct number of significant digits.

3. a) Is the number of significant digits in the average the same or different in your answers to questions 1 and 2?

b) If the two averages have a different number of significant digits, explain why one of them has fewer digits than the other. If they have the same number of significant digits, explain why this is so. Provide a concise and rational explanation and write legibly.

4. Which metal is it?

| | |
|---|---|
| Magnesium | 1.738 g/mL |
| Aluminum | 2.70 g/mL |
| Titanium | 4.506 g/mL |
| Vanadium | 6.0 g/mL |
| Chromium | 7.19 g/mL |
| Iron | 7.874 g/mL |
| Nickel | 8.904 g/mL |
| Lead | 11.34 g/mL |
| Tungsten | 19.25 g/mL |