Chemistry 115 Name Key

Dr. Cary Willard

Quiz 1A (20 points) February 2, 2010

1. (2 points) What is the elemental symbol for the element aluminum?

Al

1. (2 points) What is the name of the element with the elemental symbol Br?

bromine

1. (4 points) Round the following numbers to 3 significant digits and write in correct scientific notation.
	1. 3853846153 g 3.85 x 109 g
	2. 0.000000035481264 mL 3.55 x 10-8 mL
2. (4 points) Perform the following calculations to the correct number of significant figures
	1. $71.248+82.8= 154.0$
	2. $0.32887×\frac{8.613}{0.280}=10.1$
3. (4 points) A marathon is 26 miles. Given 5280 ft = 1 mile and 1 foot = 12 in, determine the number of mm(millimeters) in a marathon. Use dimensional analysis and show your work clearly.

$$?mm=26 mi×\frac{5280 ft}{1 mi}×\frac{12 in}{1 ft}×\frac{2.54 cm}{1 in}×\frac{1 m}{100 cm}×\frac{1000 mm}{1 m}=4.18×10^{7}mm$$

1. (4 points) If 18-karat gold has a density of 15.5 g/mL, what is the volume in mL of a 18-karat gold staff with a mass of 10.5 kg?

$$?mL=10.5 kg Au×\frac{1000 g Au}{1 kg Au}×\frac{1 mL Au}{15.5 g Au}=677 mL Au $$

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Quiz 1B (20 points) February 2, 2010

1. (2 points) What is the elemental symbol for the element silicon?

Si

1. (2 points) What is the name of the element with the elemental symbol Hg?

mercury

1. (4 points) Round the following numbers to 3 significant digits and write in correct scientific notation.
	1. 6754379540247 g 6.75 x 1012 g
	2. 0.00000000064873264 mL 6.49 x 10-10 mL
2. (4 points) Perform the following calculations to the correct number of significant figures
	1. $71.248+57.6=128.8 $
	2. $0.32887×\frac{4.604}{0.280}=5.41$
3. (4 points) A half-marathon is 13 miles. Given 5280 ft = 1 mile and 1 foot = 12 in, determine the number of mm(millimeters) in a half-marathon. Use dimensional analysis and show your work clearly.

$$?mm=13 mi×\frac{5280 ft}{1 mi}×\frac{12 in}{1 ft}×\frac{2.54 cm}{1 in}×\frac{1 m}{100 cm}×\frac{1000 mm}{1 m}=2.09×10^{7}mm$$

1. (4 points) If 18-karat gold has a density of 15.5 g/mL, what is the volume in mL of a 18-karat gold staff with a mass of 12.8 kg?

$$?mL=12.8 kg Au×\frac{1000 g Au}{1 kg Au}×\frac{1 mL Au}{15.5 g Au}=825 mL Au$$