Chemistry Unit 1 Worksheet Period: \_\_\_\_\_\_ Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Significant Figures

1. Determine the number of significant figures in the following measurements:

a. 0.0120 m \_\_\_\_\_\_

b. 100.5 mL \_\_\_\_\_\_

c. 101 g \_\_\_\_\_\_

d. 350 cm2 \_\_\_\_\_\_

e. 0.97 km \_\_\_\_\_\_

f. 1000 kg \_\_\_\_\_\_

g. 180. mm \_\_\_\_\_\_

h. 0.4936 L \_\_\_\_\_\_

i. 0.020 700 s \_\_\_\_\_\_

2. Round the following quantities to the specified number of significant figures:

(include the unit in your answer)

a. 5 487 129 m to three significant figures \_\_\_\_\_\_\_\_\_\_\_\_

b. 0.013 479 265 mL to six significant figures \_\_\_\_\_\_\_\_\_\_\_\_

c. 31 947.972 cm2 to four significant figures \_\_\_\_\_\_\_\_\_\_\_\_

d. 192.6739 m2 to five significant figures \_\_\_\_\_\_\_\_\_\_\_\_

e. 786.9164 cm to two significant figures \_\_\_\_\_\_\_\_\_\_\_\_

f. 389 277 600 J to six significant figures \_\_\_\_\_\_\_\_\_\_\_\_

g. 225 834.762 cm3 to seven significant figures \_\_\_\_\_\_\_\_\_\_\_\_

3. Perform the following calculations, and express the answer in the correct units and number of significant figures.

a. 651 cm x 75 cm \_\_\_\_\_\_\_\_\_\_\_\_

b. 7.835 kg / 2.5 L \_\_\_\_\_\_\_\_\_\_\_\_

c. 14.75 L / 1.20 s \_\_\_\_\_\_\_\_\_\_\_\_

d. 360 cm x 51 cm x 9.07 cm \_\_\_\_\_\_\_\_\_\_\_\_

e. 5.18 m x 0.77 m x 10.22 m \_\_\_\_\_\_\_\_\_\_\_\_

f. 34.954 g / 11.169 cm3 \_\_\_\_\_\_\_\_\_\_\_\_

4. Perform the following calculations, and express the answer in the correct units and number of significant figures.

a. 7.945 J + 82.3 J - 0.02 J \_\_\_\_\_\_\_\_\_\_\_\_

b. 0.012 m – 0.0045 m – 0.0011 m **\_\_\_\_\_\_\_\_\_\_\_\_**

c. 500 g+ 432 g + 2 g **\_\_\_\_\_\_\_\_\_\_\_\_**

d. 31.2 kPa + 0.0035 kPa – 0.147 kPa **\_\_\_\_\_\_\_\_\_\_\_\_**

e. 312dL – 31.2 dL – 3.12 dL **\_\_\_\_\_\_\_\_\_\_\_\_**

f. 1701 kg + 50 kg + 43 kg **\_\_\_\_\_\_\_\_\_\_\_\_**