Chemistry Review Sheet Chapter 3 KEY

1. Add using significant figures

A	950.0 + 32	982
B	.0320 + .0055	.038

2. Subtract the following number using significant figures

A	800 – 50.01	750
B	1.251 - .00655	1.244

3. Multiply the following numbers using significant figures.

A	11 x 3.75	41
B	558 x .0012	.67

4. Calculate the following division problem using significant figures.

A	92.68 ÷ 5	20
B	.056 ÷ 0.008	70

5. Convert the following. Write the conversion factor in the first box, the answer in the second box, and the answer using significant figures in the third box.

A	9.10 m to cm	x $\frac{100\text{cm}}{1\text{ m}}$ =	910 cm	9.10×10^2 cm
B	18.5 L to kL	x $\frac{1\text{ kL}}{1000\text{ L}}$ =	.0185 kL	.0185 kL

6. Convert the following. Write the conversion factor in the first box, the answer in the second box, and the answer using significant figures in the third box. Equalities are given for unknown quantities.

A	21.7 hr to d	x $\frac{1\text{ day}}{24\text{ hours}}$ =	0.904166667	0.904 day
B	1.44 d to weeks	x $\frac{1\text{ week}}{7\text{ days}}$ =	0.2057142857	0.206 weeks

7. Convert the following temperatures to Celcius. Calculated answer in the first box, answer using significant figures in the second box.

A	18.5 K	-254.5 °C	-255 °C
B	200 K	-73 °C	-70 °C

8. Convert the following temperatures to Kelvin. Calculated answer in the first box, answer using significant figures in the second box.

A	250°C	523 K	520 K
B	14.2°C	287.2 K	287 K

9. Calculate the unknown quantity using the information given. Place the answer in the box provided, then write the answer using significant figures in the last box.

	Mass	Volume	Density	
A	92 g	10 mL	9.2 g/mL	9.2 g/mL
B	20.44 g	2.34444 mL	9 g/cm^3	2 mL
C	8.624 g	7cm x 11cm x .01cm (.77cm^3)	11.2 g/mL	9 g

10. What is the equality between
    A. kilometer and meter 1 km = 1000 m
    B. centisecond and second 100 cs = 1 s
    C. milligram and gram 1000 mg = 1 g
    D. second and minute 60 s = 1 min

11. What is the percent error if a meterstick measured 2.75 m, but the correct length was 2.85 m?

$$\% \text{ error} = \frac{|2.85 - 2.75|}{2.85} \times 100 = 3.51\%$$

12. Define
    Accuracy
    Precision
    Conversion Factor
    Equality

13. What is the metric unit for
    Length meter
    Mass gram
    Volume liter
    Density g/mL or g/cm^3
    Time second