

Chemistry – Chapter 3 book problems #4: Chapter review

1. Make the following conversions:

- a. 157 cs to seconds
- b. 42.7 L to milliliters
- c. 261 nm to millimeters
- d. 0.065 km to decimeters
- e. 642 cg to kilograms
- f. 8.25×10^2 cg to nanograms

2. Complete this table so that all the measurements in each row have the same value.

mg	g	cg	kg
a. _____	b. _____	28.3	c. _____
6.6×10^3	d. _____	e. _____	f. _____
g. _____	2.8×10^{-4}	h. _____	i. _____

3. Rank these numbers from smallest to largest.

- a. 5.3×10^4
- b. 57×10^3
- c. 4.9×10^{-2}
- d. 0.0057
- e. 5.1×10^{-3}
- f. 0.0072×10^2

4. Comment on the accuracy and precision of these basketball free throw shooters.

- a. 99 of 100 shots are made.
- b. 99 of 100 shots hit the front of the rim and bounce off.
- c. 33 of 100 shots are made; the rest miss.

5. Which would melt first, germanium with a melting point of 1210 K or gold with a melting point of 1064°C ?

6. The density of dry air measured at 25°C is $1.19 \times 10^{-3} \text{ g/cm}^3$. What is the volume of 50.0 g of air?

7. What is the mass of a cube of aluminum that is 3.0 cm on each edge? The density of aluminum is 2.7 g/cm^3 .