Scientific Notation and Unit Prefixes

Scientific Notation

**1.** Rewrite the following numbers in **scientific notation**, in simplest form. Include units. Use appropriate

significant figures!

**a.** Altitude of summit of Mt. Ka‘ala (highest point on O‘ahu): 4020 ft =

**b.** Altitude of summit of Mauna Kea: 13,796 ft =

**c.** Thickness of a human hair: 0.015 cm =

**d.** Wavelength of reddish light: 0.0000007 m =

**e.** Height of your instructor: 1.80 m =

**f.** Number of galaxies in the universe: 1 trillion galaxies =

**g.** Age of the universe in seconds: 430,000,000,000,000,000 s =

**h.** Volume of a hydrogen atom: 0.000 000 000 000 000 000 000 000 621 cm3 =

Powers of Ten

**2.** Insert the correct **metric prefix** abbreviations (be careful to distinguish upper case from lower case!):

10–2 m = 1 \_\_\_\_\_m 109 y = 1 \_\_\_\_\_y 103W = 1 \_\_\_\_\_W

10–3 m = 1 \_\_\_\_\_m 106 W = 1 \_\_\_\_\_W 10–6 s = 1 \_\_\_\_\_s

10–9 m = 1 \_\_\_\_\_m 103 g = 1 \_\_\_\_\_g 109 bytes = 1 \_\_\_\_\_B

106 Hz = 1 \_\_\_\_\_Hz 10–6 s = 1 \_\_\_\_\_s 1012 bytes = 1 \_\_\_\_\_B

Conversions.

3. Use dimensional analysis to solve for the desires value. Answer in Scientific Notation.

a. Convert 45700mm to Gm.

b. Convert 0.02Mg to pg.

c. Convert 3.6cL to TL