Metric Conversion and Density Practice

Name: KEY Hour: _____

Kg hg dag g dg cg mg

1) 14 dg = .014 hg .014

2) 0.084 kg = 8400. cg 0.084

3) 70.08 mg = .07008 g .07008

4) 12.008 dag = 12008. cg 12.008

5) 0.95 g = .0095 hg .95

6) 7893 hg = 78930. dag 7893.0

7) 20.01 mg = .02001 g .02001

8) 92 hg = 920000. cg 92.000

9) 0.04 dg = .00004 hg .04

10) 1.7 dag = 1700. cg 1.7

11) M = 4 g, V = 11.2 ml, D = ?

$$d = \frac{m}{V} = \frac{4\text{ g}}{11.2\text{ mL}} = 3.33\text{ g/mL}$$

12) M = 35.8 g, D = 1.2 g/mL, V = ?

$$V = \frac{m}{d} = \frac{35.8\text{ g}}{1.2\text{ g/mL}} = 29.83\text{ mL}$$

13) V = 6.2 mL, D = 1.65 g/mL, M = ?

$$m = d \times V = (1.65\text{ g/mL}) \times (6.2\text{ mL}) = 10.23\text{ g}$$

14) A teacher gives you a sample of an unknown solid. The teacher tells you that the density of the object is 1.9 g/mL. You use a balance and find the mass to be 34.2 g. What is the volume of the object?

$$V = \frac{m}{d} = \frac{34.2\text{ g}}{1.9\text{ g/mL}} = 18\text{ mL}$$

15) EXTRA CREDIT

D = 2.5 g/ mL, M = 0.77 hg, V = ?

MUST CONVERT 0.77 hg to grams

0.77 = 77 g

$$V = \frac{m}{d} = \frac{77\text{ g}}{2.5\text{ g/mL}} = 30.8\text{ mL}$$