

Name \_\_\_\_\_ Date \_\_\_\_\_

### Dimensional Analysis and Metric Conversions Practice

Common Conversion Factors			
1 yr = 365 days	1 mi = 5280 ft	454 g = 1 lb	1 gal = 3.79 L
1 day = 24 hours	1 ft = 12 in	1 lb = 16 oz	264.2 gal = 1 m <sup>3</sup>
1 hr = 60 minutes	1 in = 2.54 cm	1 kg = 2.2 lbs	1 gal = 128 fluid oz
1 min = 60 sec	3 ft = 1 yd	946 mL = 1 qt	4 qt = 1 gal

1. In the past month, Cobb County has had 0.6 yards of rain. Express this amount in centimeters.

(yds → ft → in → cm)  $0.6 \text{ yds} \cdot \frac{3 \text{ ft}}{1 \text{ yds}} \cdot \frac{12 \text{ in}}{1 \text{ ft}} \cdot \frac{2.54 \text{ cm}}{1 \text{ in}} = 54.864 \text{ cm}$

2. How many fluid ounces are in a 2 Liter Coca-Cola?

$67.55 \text{ fl. oz.}$

3. Diego is working on the following problem in class. What conversion factor should go in the missing fraction?

A student can run 100 yards in 15 seconds. Convert this speed to miles per hour.

yds → ft → mi

$$\frac{100 \text{ yards} \cdot \frac{? \text{ ft}}{1 \text{ yds}} \cdot \frac{1 \text{ mi}}{5280 \text{ ft}} \cdot \frac{60 \text{ sec}}{1 \text{ min}} \cdot \frac{60 \text{ min}}{1 \text{ hr}}}{15 \text{ sec}}$$

A.  $\frac{12 \text{ ft}}{1 \text{ yd}}$

B.  $\frac{1 \text{ mi}}{3 \text{ yd}}$

C.  $\frac{3 \text{ ft}}{1 \text{ yd}}$

D.  $\frac{1 \text{ ft}}{3 \text{ yd}}$

Match the unit to the correct abbreviation.

- F 4. Kilometer
- B 5. Decigram
- I 6. Miles
- J 7. Milliliter
- A 8. Centimeter
- C 9. Dekagram
- H 10. Meter
- G 11. Pound
- E 12. Kilogram
- D 13. Feet

- A. cm
- B. dg
- C. dkg
- D. ft
- E. kg
- F. km
- G. lb
- H. m
- I. mi
- J. mL

14. Which of these are metric units?

m: kilometer, centimeter, meter  
g: decigram, dekagram, kilogram  
l: milliliter

15. Which of these measure length?

kilometer, centimeter, meter,  
miles, feet

15. The symbols for units of length in order from **smallest to largest** are *large* **K H D B D C M** *small*

~~X~~ m, cm, mm, km *→ smallest*

~~X~~ mm, m, cm, km *← cm is smaller than m*

~~X~~ km, mm, cm, m *→ largest*

**D** mm, cm, m, km

Convert each of the following.

**K H O B D C M**

16. 5 L = 5000 mL

$\frac{\text{m}}{\text{L}}$   
 $\frac{\text{L}}{\text{g}}$

18. 104 km = 104000 m

17. 16 cg = 160 mg

19. 198 dkg = 1.98 kg