Name:_____ Date:_____

Dr. Croom's Physics Chapter 1: Scientific Tool Box

Conversion Problem Sheet
(Metric to Metric)

Convert the following values from US Customary to US Customary. Show your work using a factor label table. Write your final answer on the line provided.

Example:

$$20\ m/s * 4\ s = \frac{20\ m}{1\ \cancel{s}} * \frac{4\ \cancel{s}}{1} = 80\ m$$

OR

45 cm to meter (Move the decimal 2 spots to the left) = 0.45 meters

1. 50 Mg to kg _____

2. 40 cm to m _____

3. 110.5 µs to ms _____

4. 12 mm to km _____

5. 34 Mg to g _____

6. 30,000 m to hm _____

7. 4500 mm to km _____

8. 0.002 ns to ds _____

9. 2.44 L to cm^3 _____

10. 45, 654 mg to kg _____

11. 4 mm^3 to dm^3 _____

12. 4.7 km/h to m/s _____

13. 9.3 kg to cg _____

14. 45 m^3 to cm^3 _____

15. 7.99 L to cm^3 _____

16. 45 km / hr to m/s _____

Compare the following values by indicating the larger value on the line provided

17. 1 in or 1cm _____

18. 1 lb on earth or 1kg _____

19. 1 L or 1000 cm^3 _____

20. 1 km or 1 mile _____

21. 1 ml or 1 cm^3_____

22. 1 yd or 1 m _____

Express the sum of the following values in meters or grams on the line provided

23. 20 g, 15 cg, 0.5 kg, and 250 mg _____

24. 0.2 m, 2.4 cm, and 15 mm. _____

Factor Label Method

Convert the following values from US Customary to US Customary. Show your work using a factor label table. Write your final answer on the line provided.

Example: 10 ft /s to inches / s

$$\frac{10\ \cancel{ft}}{s} * \frac{12\ inches}{1\ \cancel{ft}} = 120\ inches / s$$

25. A person is runs 3.5 miles. How many inches is that?

3.5 miles						

26. The speed of sound is 740 Mph. What is the speed of sound in meters per second (m/s)?

740 Mi						
hr						

27. The speed of light is 300,000,000 m/s. How fast does light travel in miles per hr (Mph)?

300,000, 000 m				
s				

28. A human can swim 8.3 Km/hr. How fast can they swim in ft/s?

8.3 Km						
hr						

29. A person whose parachute didn't open can reach a terminal velocity of 200 Km/h. How fast are they falling in Mph?

200 Km						
hr						

(USC to USC)

Convert the following values from US Customary to US Customary. Show your work using a factor label table. Write your final answer on the line provided.

Example: 10 ft /s to inches / s

$$\frac{10\ ft}{s} * \frac{12\ inches}{1\ ft} = 120\ inches / s$$

30. 50 yards to feet

31. 12,680 inches to feet

32. 75 miles to feet

33. 240 yards to inches

34. 18,000 inches to miles

35. 18, 000 inches to yards

36. 18,000 inches to feet

37. 60 miles/ hr to feet/second

38. 7852 feet to miles

39. 654 table spoons to pints

(US Customary to Metric)

Convert the following values from US Customary to US Customary. Show your work using a factor label table. Write your final answer on the line provided.

Example:

$$20\ m/s * 4\ s = \frac{20\ m}{1\ s} * \frac{4\ s}{1} = 80\ m$$

40. 1 day to seconds

41. 30 feet to meters

42. 2.5 meters to inches

43. 50 meters to miles

44. 235 centimeters^2 to inches^2

45. 55 miles/hour to meters/second

46. 40 minutes to years

47. 2.4 m^2 to ft^2

48. 24 kilometers to yards

49. 60 mi/hr to m/s

50. 45 cm to inches

51. 643 km to miles

52. 850 inches to meters

53. 75 km/hr to ft/s

Word Problems

54. How many baseballs can be carried in 5 carts?

Given:

- 1 cart = 12 sacks
- 3 sacks = 1 basket
- 1 basket = 25 baseballs