

## 4.2 CA

1. Give an example of something the length of each metric unit.

Millimeter –

Centimeter –

Meter –

Kilometer –

### **METRIC UNIT CONVERSIONS:** Perform dimensional analysis.

|                           |                          |
|---------------------------|--------------------------|
| 2. 160 cm is how many mm? | 3. 250 m is how many km? |
| 4. 2000 mg is how many g? | 5. 104 km is how many m? |
| 6. 198 g is how many kg?  | 7. 480 cm is how many m? |
| 8. 5.6 kg is how many g?  |                          |

### **Compare using <, >, or =.**

|                      |                     |
|----------------------|---------------------|
| 9.<br>63 cm ○ 6 m    | 10.<br>5 g ○ 508 mg |
| 11.<br>3.6 m ○ 36 cm | 12.<br>43 mg ○ 5 g  |

**Convert each measurement.** Round to the nearest hundredth if necessary.

|  |   |
|--|---|
| 13. 250,000 cm is equivalent to how many kilometers?             | 14. 0.62 mile is how many inches?   |
| 15. 8ft is how many cm?<br>(Hint: 1 in = 2.54 cm)                | 16. 14 yards is equal to how many inches?   |
| 17. Karen is 36 weeks pregnant, how many months pregnant is she? | 18. A newborn infant weighs 140 oz but the hospital regulations require that the weight be recorded in kilograms. What is the baby's weight in kilograms? |
| 19. How grams is a 4 pound steak?                                | 20. How many fl oz are in a 2 Liter bottle of coke?   |
| 21. Change 3 liters to gallons<br>(hint: 1 gallon = 4 quarts)    | 22. Change 1,314,000 minutes to years   |

23. A woman is weighed at a physician's office in France (not knowing the scale is a kg scale).

a) She is surprised when his weight is 70 kg. What is her weight in pounds?

b) The same woman is surprised at his height of 1.2 meters. What is her height in feet?

**Convert each rate.** Round to the nearest hundredth if necessary.

24. 8 gal/h is equivalent to how many pt/min?

25. Cheetah's can run 60 mph, how many ft/sec is that?

26. The Shinkansen passenger train of Japan travels at a rate of 300 kilometers per hour. How many meters per hour is this speed?



27. A car is traveling 89.5 miles per hour. How fast is that in meters per second?

28. 88 inches per second into miles per day.

29. Rent is \$2000 per month, what is the cost per week?

30. 1 pint per ten minutes is equivalent to how many liters per hour?

31. Kevin recently accepted a job at a Lucky Seven store 17 miles from his house. Use the following information and unit analysis to answer questions a, b, and c. Round answers to the nearest hundredth.

Salary: \$8.75 per hour  
40-hour workweek  
52-workweeks per year  
5 days of work per week  
Gas mileage: 21 miles per gallon  
Gas costs: \$1.26 per gallon  
Average speed: 45 miles per hour  
Daily round trip to work and back home: 34 miles

- What is Kevin's annual salary?
- How much will Kevin spend on fuel each week?
- How many hours will Kevin spend commuting each week?

**32. Find the unit price of each below.**

Consider that the average cost for a standard half barrel keg of Budweiser is approximately \$100. A standard keg contains 15.5 gallons.



Budweiser 12-pack Cans  
Size: 12OZ  
\$11.99



33. Convert each recipe based on whether it is doubled, tripled, or halved.

| Original                                       | Doubled Recipe | Converted Recipe |
|--|----------------|------------------|
| 2 tablespoons of butter or margarine, softened |                |                  |
| 3/4 tsp. vanilla                               |                |                  |
| 1 cup packed brown sugar                       |                |                  |
| 4 cups quick-cooking                           |                |                  |

| Original                          | Tripled Recipe | Converted Recipe |
|-----------------------------------|----------------|------------------|
| 1 tsp. corn syrup                 |                |                  |
| 1 package (6 ounces) candy coated |                |                  |
| 2 teaspoons soda chocolate pieces |                |                  |

| Original                    | Half Recipe | Converted Recipe |
|-----------------------------|-------------|------------------|
| 1/2 cup butter or margarine |             |                  |
| 1 quart of milk             |             |                  |
| 1/4 cup of whip cream       |             |                  |