

## Solving Word Problems with Customary and Metric Units

When working measurement problems, it is important to convert all measurements to like units of measure before solving the problems.

The table below shows some common customary units of measurement.

length	weight	capacity	time
1 foot (ft.) = 12 inches (in.) 1 yard (yd.) = 3 ft. = 36 in. 1 mile (mi.) = 1,760 yd. = 5,280 ft.	1 pound (lb.) = 16 ounces (oz.) 1 ton (T) = 2,000 lb.	1 pint (pt.) = 2 cups (c.) 1 quart (qt.) = 2 pt. = 4 c. 1 gallon (gal.) = 4 qt. = 8 pt.	1 minute (min.) = 60 seconds (sec.) 1 hour (hr.) = 60 min. 1 day = 24 hr.

The metric system combines prefixes with basic units of length, weight, capacity and time. The table below shows some of the commonly used prefixes along with their meanings and abbreviations.

	thousands	hundreds	tens	Basic Unit	tenths	hundredths	thousandths
	1,000 kilo-	100 hecto-	10 deca-	1	0.1 deci-	0.01 centi-	0.001 milli-
length	km	hm	dcm	meter (m)	dm	cm	mm
weight	kg	hg	dkg	gram (g)	dg	cg	mg
capacity	kl	hl	dcl	liter (l)	dl	cl	ml
time	ks	hs	dcs	second (s)	ds	cs	ms

**Solve by changing units to either smaller or larger units.**

1. Len runs 3,200 meters every day. How many kilometers does he run?

Answer \_\_\_\_\_

2. If each stamp is 1 in. long, how many feet are there in a 100-stamp roll?

Answer \_\_\_\_\_

3. Approximately how many 100-yard football fields are there in a mile?

Answer \_\_\_\_\_

4. A paper clip weighs about 1 gm. What is the weight of a box of 250 paper clips?

Answer \_\_\_\_\_

5. During a crisis, a nurse was on duty for 36 hours. How many days is this?

Answer \_\_\_\_\_

6. A truck weighs 3.2 tons when loaded. How many pounds is this?

Answer \_\_\_\_\_

7. What is the weight of a \$2-roll of nickels if one nickel is about 5 gm?

Answer \_\_\_\_\_

8. How many paperback books can Ny put on a shelf one meter long if each book is 2 centimeters wide?

Answer \_\_\_\_\_

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## Answer Key

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1. 3.2 kilometers
2.  $8\frac{1}{3}$  feet
3. about 18
4. 250 grams
5.  $1\frac{1}{2}$  days
6. 6,400 pounds
7. 200 grams
8. 50 books

