Contents

Name: Date:

Customary Units of Length 1

1. Draw lines.

a. 2 in

b. 2 1/2 in

c. 5 in

d. 4 1/2 in

e. 6 1/2 in

2. Measure the lines to the nearest half inch.

a. _____

b. _____

c. _____

d. _____

e. _____

3. Use a ruler, a measuring tape, and/or a yardstick, and measure:

a. Small items (less than one foot):

Item	Length

b. Longer items (using feet/yards):

Item	Length

4. Which is the best estimate?

a. side of a room	20 inches	20 feet	20 yards
b. distance between two towns	100 yards	100 feet	100 miles
c. width of a store parking lot	100 inches	50 yards	50 feet
d. height of a window	1 yard	1 inch	1 foot
e. height of an adult	5 1/2 inches	5 1/2 yards	5 1/2 feet

5. One foot = 12 inches. Fill in.

a. 2 ft = ___ in	**d.** 1 ft 2 in = ___ in	**g.** 10 ft 2 in = ___ in
b. 6 ft = ___ in	**e.** 3 ft 9 in = ___ in	**h.** 7 ft 4 in = ___ in
c. 10 ft = ___ in	**f.** 5 ft 11 in = ___ in	**i.** 5 ft 8 in = ___ in

Name: Date:

Metric and Customary Units of Length 2

1. First estimate, then measure the lines in inches and centimeters-millimeters:

a. _____

	guess	reality
a	in	in
	__ cm __mm	__ cm __mm

b. _____

	guess	reality
b	in	in
	__ cm __mm	__ cm __mm

c. _____

	guess	reality
c	in	in
	__ cm __mm	__ cm __mm

d. _____

	guess	reality
d	in	in
	__ cm __mm	__ cm __mm

2. Draw lines with the given lengths in inches. Then, measure the same lines with centimeters and millimeters.

a. 1 inch ___cm ___mm	**b.** 2 inches	**c.** 3 inches	**d.** 4 inches	**e.** 3 1/4 inches
f. 1 1/8 inches ___cm ___mm	**g.** 2 3/8 inches	**h.** 7/8 inch	**i.** 1 5/8 inches	**j.** 1 3/4 inches

3. Draw lines in centimeters. Then measure the same lines with inches.

length	**1 cm**	**2 cm**	**3 cm**	**4 cm**	**5 cm**
inches					

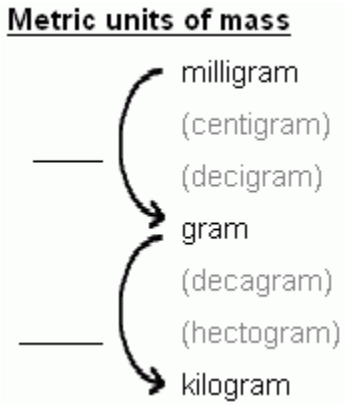
4. Write < or > between the measurements. The above tables can help, too!

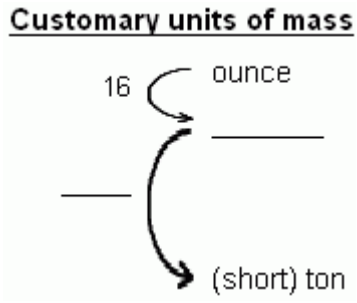
a. $1\frac{1}{4}$ in ☐ $1\frac{3}{8}$ in **b.** $2\frac{7}{8}$ in ☐ $2\frac{3}{4}$ in **c.** $2\frac{2}{4}$ in ☐ $2\frac{3}{8}$ in **d.** $\frac{5}{8}$ in ☐ $\frac{1}{2}$ in

e. 1 in ☐ 4 cm **f.** 10 cm ☐ 2 in **g.** 1 in ☐ 2 cm **h.** 3 in ☐ 6 cm

Name: Date:

Metric Units of Weight 3





1. How many...

a. milligrams in a 1/2 gram?

b. grams in 5 kilograms?

c. ounces in 5 pounds?

d. pounds in 3 tons?

e. ounces in a ton?

2. Weigh water on a scales (in a container, of course!). Remember to calibrate the scales with the empty container.

volume	100 mL	200 mL	250 mL	500 mL	1 L
weight in grams					
weight in oz					

3. Write < or > or = between the measurements. The above table can help, too!

a. 35 oz ☐ 2 lb **b.** 6 oz ☐ $\frac{1}{2}$ lb **c.** $\frac{1}{2}$ ton ☐ 200 lb **d.** 4 lb 5 oz ☐ 77 oz

e. 500 mg ☐ 1/2 g **f.** 400 g ☐ 1/2 kg **g.** 2 kg ☐ 5,000 g **h.** 2 kg ☐ 2 lb

4. Which are reasonable measurements?

a. 7-year old boy 50 kg 77 kg 25 kg	**b.** a heavy suitcase 800 kg 11 lb 70 lb	**c.** 1 egg 640 g 64 g 17 oz
d. a pocketbook 900 g 3 oz 90 g	**e.** adult man 80 kg 160 kg 200 kg	**f.** washer 50 lb 150 kg 100 lb

5. Fill in a suitable unit of mass.

a. A 5-gallon bucket full of water weighs 40 ____ .

b. A heavy table weighs 70 ____.

c. An apple weighs 200 ____ .

d. The letter weighed 3 ___.

6. Convert.

78 oz = ___lb ____ oz

a. 190 oz = ___lb ____ oz

42 oz = ___lb ____ oz

4 lb 9 oz = ___ oz

b. 28 lb 4 oz = ____ oz

2 1/2 tons = ___ lb

5 1/2 kg= _____ g

c. 500 mg = ____ g

7 g = _____ mg

Name: Date:

Customary Units of Measuring

1. Fill the tables with customary units and their conversion factors.

a. LENGTH: | inch | → × 12 | | → × | | → × | |

b. WEIGHT: | | → × 16 | | → × | |

c. CAPACITY: | ounce | → × | cup | → × | | → × | | → × | |

2. Which conversions went the right way?

a. 2.46 gal = 2.46 × 4 qt = 9.84 qt	**c.** 11 oz = 11 × 16 lb = 176 lb
b. 2.46 gal = $\frac{2.46}{4}$ qt = 0.615 qt	**d.** 11oz = $\frac{11}{16}$ lb = 0.6875 lb

3. Convert to the given unit.

1 foot = ___ inches	**1 lb = ____ oz**	**1 T = ____ lb**
a. 4 in = ___ ft	**g.** 5/8 lb = _____ oz	**m.** 1000 lb = ____ T
b. 7 in = ___ ft	**h.** 3 1/2 lb = ____ oz	**n.** 1600 lb = ____ T
c. 17 in = ___ ft	**i.** 1 3/4 lb = _____ oz	**o.** 3400 lb = _____ T
d. 2 ft = ____in	**j.** 6 oz = ____ lb	**p.** 2.2 T = _____ lb
e. 4 1/2 ft = ____in	**k.** 78 oz = _____ lb ____ oz	**q.** 3.47 T = _____ lb
f. 7 1/3 ft = ____in	**l.** 189 oz = _____ lb ____ oz	**r.** 80.9 T = _____ lb
1 quart = ___ cups = _____ ounces	**1 gallon = ____ quarts = _____ pints**	**1 mile = ____ yards = _____feet**
A. 2 1/2 qt = ___ c	**G.** 3/4 gal = _____ qt	**M.** 5 mi = ____ ft
B. 2 3/4 qt = ___ c	**H.** 4 1/2 gal = ____ qt	**N.** 1.2 mi = ____ ft
C. 9 c = ___ qt	**I.** 60 gal = _____ pt	**O.** 0.897 mi = _____ yd
D. 15 c = ____qt	**J.** 6.794 gal = ____ qt	**P.** 4,593 yd = _____ mi
E. 13 oz = ____c	**K.** 6 qt = _____ gal	**Q.** 10,293 ft = _____ mi
F. 129 oz = __qt __c __oz	**L.** 13 qt = _____ gal	**R.** 293 ft = _____ mi

Name: Date:

Metric System Prefixes

1. Fill in the missing entries from this table.

Prefix	Meaning	Units - length	Units - mass	Units - volume
milli-	thousandth = 0.001	millimeter (mm)		
			centigram (cg)	
deci-				deciliter (dL)
-	-	meter (m)		
	ten = 10		decagram (dag)	
				hectoliter (hL)
	thousand = 1000			

2. Write using correct units with prefixes.

a. 4 thousandth meters = 4 mm
b. 7 hundredth meters
c. 4 tenth meters
d. 5 thousand grams
e. 32 hundredth liters
f. 708 thousandth grams
g. 143 thousand meters
h. 5 hundred liters
i. 7 tenth liters
j. 90 hundredth meters

3. Change into the basic unit (either meter, liter, or gram). Think of the meaning of the prefix.

a. 45 cm = 45 hundredth meters = 0.45 m
b. 2 mL
c. 75 mg
d. 450 mL
e. 6 dm
f. 7 km
g. 34 cL
h. 45 kg
i. 9 cm
j. 16 mm
k. 62 hL
l. 9 dL

4. Change from basic unit to the given unit.

	1 m	5 m	145 m	0.1 m	0.45 m	0.9 m	0.06 m	1.5 m	2.34 m
dm									
cm									
mm									

5. Change kilometers to meters.

km	3.4 km	4.62 km	0.309 km	0.73 km	0.05 km	0.028 km	0.3 km
m							

Name: Date:

Convert Between Customary and Metric

EASY ballpark figures:	**Good to remember also:**	**Exact science:**
1 m ≈ ___ yd 1 L ≈ ___ qt 1 kg ≈ ___ lb	1 in ≈ 2.5 cm 1 mi ≈ 1.6 km (4 laps on a 400-m track) 1 oz ≈ 30 g	1 yard = 0.9144 m 1 foot = 0.3048 m 1 quart = 0.946 L 1 inch = 2.54 cm 1 ounce = 28.35 g 1 lb = 0.45 kg

1. Find the measurements that are CLOSE to each other.

a. 1 inch	1 cm 2.5 cm 5 cm	**b.** 1 foot	5 cm 10 cm 30 cm	**c.** 1 mile	1.5 km 2.5 km 3.5 km	**d.** 1 qt	1 L 100 mL 2.5 L
e. 2 kg	2 lb 4 lb 6 lb	**f.** 1 m	12 in 3 ft 3 yd	**g.** 1 cup	5 mL 30 mL 240 mL	**h.** 1 gal	4 L 6 L 8 L

2. Which is more?

a. 1 cm 1 in **b.** 1 L 1 qt **c.** 1 kg 1 lb **d.** 1 g 1 oz

e. 4 in 20 cm **f.** 5 kg 20 lb **g.** 3 gal 2 L **h.** 7 m 4 ft

3. Convert between the units. Use a calculator when needed.

a. 1 cm = _____ in
25 cm = _____ in
5 in = _____ cm
10 in = _____ cm

b. 1 m = _____ yd
5.4 m = _____ ft
30 ft = _____ m
22 ft = _____ m

c. 1 L = _____ qt
4.6 L = _____ qt
1 gal = _____ L
3 1/2 qt = _____ L

d. 1 kg = _____ lb
0.568 kg = _____ lb
75 lb = _____ kg
8.5 lb = _____ kg

4. In the U.S., a common speed limit is 55 miles per hour. Does this correspond (approximately) to a European speed limit of a) 40 km/h b) 60 km/h c) 80 km/h ?

5. A typical student ruler is 12 inches long. How long would it be in centimeters?

6. On the bottom of a food container you can often read its capacity. One such container said 64 oz. Is it bigger than one that is 2.2 L? If so, how much larger? If not, how much smaller?

7. Angela weighs 56 kg, Theresa weighs 128 lb, Judie weighs 137 lb, and Elizabeta weighs 60 kg. Write the girls in order from lightest to heaviest.

8. 1 marathon is 26.21875 miles. How long is a half-marathon in kilometers?