

✚ *homework check:* Lesson 1 - 1✚ *note:* **Imperial Measure**

The metric system is Canada's official measurement system and is based on multiples of ten. The imperial system of measurement is based on British units and requires memorizing the different ways and multiples in order to change measurements. Use of conversion charts/tables is necessary in order to convert measures with which we are unfamiliar. Refer to the conversion charts/tables in your handout to complete the following examples. **Keep this handout in a safe place in order to use it throughout the unit!**

a) How many ounces are in 4.5 gallons?

From the volume/capacity chart:

$$1 \text{ gallon(gal)} = 8 \text{ pints(pt)}$$

$$1 \text{ pt} = 20 \text{ ounces (oz)}$$

$$4.5 \times 8 =$$

$$= 36 \text{ pt}$$

$$36 \times 20 =$$

$$= 720 \text{ oz}$$

There are 720 ounces in 4.5 gallons.

b) How many tablespoons are in 7.3 quarts?

From the imperial liquid/capacity chart:

$$2 \text{ tablespoons(tbls)} = 1 \text{ oz}$$

$$20 \text{ oz} = 1 \text{ pint}$$

$$2 \text{ pt} = 1 \text{ quart}$$

$$7.2 \times 2 =$$

$$= 14.6 \text{ pints}$$

$$14.6 \times 20 =$$

$$= 292 \text{ oz}$$

$$292 \times 2 =$$

$$= 584 \text{ tbsp}$$

c) How much will Carrie pay for flooring her room that is 16ft by 20ft if flooring costs \$12.95 / square yd?

Area of room:

$$16 \times 20 =$$

$$= 320 \text{ ft}^2$$

From Imperial/USA Area chart:

9 square feet = 1 square yd

$$\frac{320}{9} =$$

$$= 35.6 \text{ yd}^2$$

Cost:

$$35.6 \times 12.95 =$$

$$= \$461.02$$

The room costs \$461.02 to floor.

✚ homework: Lesson 1 – 2: Imperial Measure

Lesson 1 – 2: Imperial Measure

1. Convert each measure to pints and then quarts.

- a) 32 fl oz b) 24 c. c) 10 c. d) 108 fl oz.

2. Convert each measure to gallons.

- a) 64 qt. b) 104 c. c) 50 pt. d) 60 oz.

3. Express each measure in fluid ounces.

- a) 5 qt. b) 16 c. c) 3 gal. d) 5 pt.

4. Express each weight in ounces.

- a) 3 lb. b) 5.6 lb.

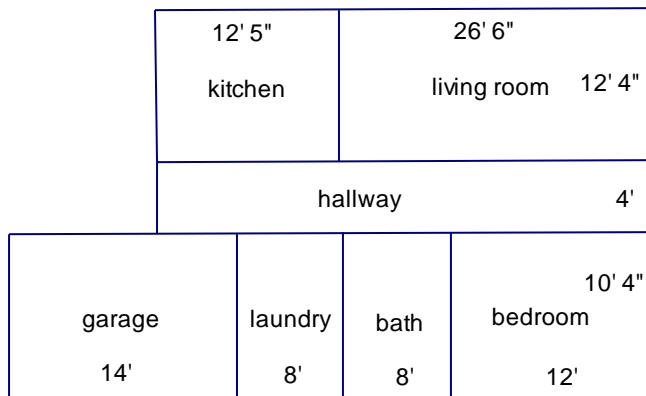
5. A recipe calls for 7 tbsp. of oil. How many fluid ounces of oil for you need?

6. Chris is sewing drapes and needs 20 ft. of fabric. The local fabric store sells fabric by the yard. How many yards of fabric does Chris need?

7. Cindy is catering dinner for a conference with 225 guests. She plans to serve pasta and figures she needs 6 oz. of pasta per guest. How many pounds of pasta does she need?

8. Jordan's dining room is 13 ft. long by 10 ft. wide. She plans to install new bamboo flooring that costs \$18.50 per square yard. How much will Jordan pay for flooring?

Use the diagram provided to answer the remaining questions.



Karen plans to put carpet in the bedroom, tile in the kitchen, bath, and laundry room, and hardwood floors in the living room and hall.

9. Calculate the number of square feet each for carpet, tile, and hardwood.

10. Carpet costs \$3.49 per square yard. How much will carpet cost?

11. Hardwood costs \$6.39 per square foot. How much does hardwood cost?

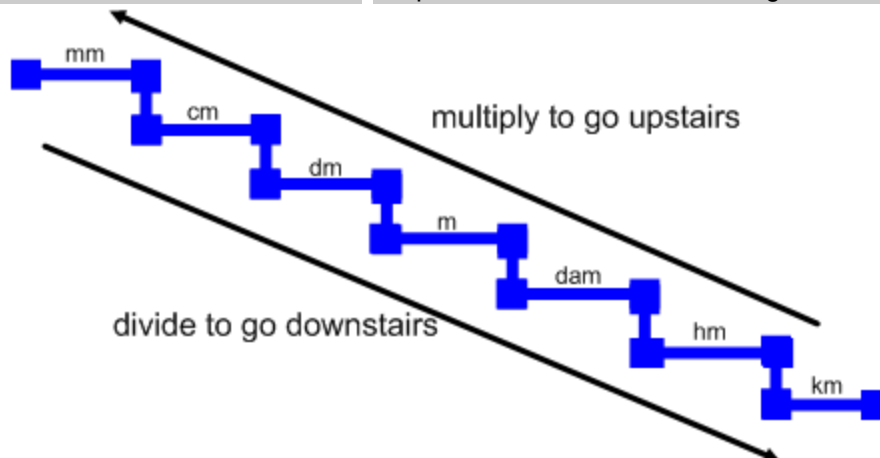
Metric Imperial Conversion Charts/Tables

Metric length	Imperial/USA Length
10 millimeters = 1 centimeter	12 inches = 1 foot
10 centimeters = 1 decimeter	3 feet = 1 yard
10 decimeters = 1 meter	22 yards = 1 chain
10 meters = 1 decameter	10 chains = 1 furlong
10 decameters = 1 hectometer	8 furlongs = 1 mile (5280 feet)
10 hectometers = 1 kilometer (1000 meters)	

Metric area	Imperial/USA area
100 square mm = 1 square centimeter	144 square inches = 1 square foot
10000 square cm = 1 square meter	9 square feet = 1 square yard
100 square m = 1 are	4840 square yards = 1 acre
10 ares = 1 hectare	640 acres = 1 square mile
100 hectares = 1 square kilometer	
1 square kilometer = 1000000 square meters	

Metric mass	Imperial/USA weight
1000 grams = 1 kilogram	16 ounces = 1 pound
1000 kilograms = 1 ton	14 pounds = 1 stone (UK)
UK shows United Kingdom Measure	8 stones (UK) = 1 hundredweight (UK)
	1 hundredweight (UK) = 112 pounds (UK)
	100 pounds = 1 hundredweight (USA)

Metric capacity	Imperial liquid capacity
10 milliliters = 1 centilitre	2 teaspoons = 1 dessertspoon
10 centiliters = 1 decilitre	3 teaspoons = 1 tablespoon
10 deciliters = 1 litre	2 tablespoons = 1 fluid ounce
1000 liters = 1 cubic meter	5 fluid ounces = 1 gill
	2 gills = 1 cup
	2 cups = 1 pint
	1 pint = 20 fluid ounces
	2 pints = 1 quart
	4 quarts = 1 gallon



Metric Imperial Conversion Charts/Tables

Length

Metric			Imperial
1 millimetre [mm]		→	0.03937 in
1 centimetre [cm]	10 mm	→	0.3937 in
1 metre [m]	100 cm	→	1.0936 yd
1 kilometre [km]	1000 m	→	0.6214 mile

Imperial			Metric
1 inch [in]		→	2.54 cm
1 foot [ft]	12 in	→	0.3048 m
1 yard [yd]	3 ft	→	0.9144 m
1 mile	1760 yd	→	1.6093 km
1 int nautical mile	2025.4 yd	→	1.853 km

Area

Metric			Imperial
1 sq cm [cm ²]	100 mm ²	→	0.1550 in ²
1 sq m [m ²]	10,000 cm ²	→	1.1960 yd ²
1 hectare [ha]	10,000 m ²	→	2.4711 acres
1 sq km [km ²]	100 ha	→	0.3861 mile ²

Imperial			Metric
1 sq inch [in ²]		→	6.4516 cm ²
1 sq foot [ft ²]	144 in ²	→	0.0929 m ²
1 sq yd [yd ²]	9 ft ²	→	0.8361 m ²
1 acre	4840 yd ²	→	4046.9 m ²
1 sq mile [mile ²]	640 acres	→	2.59 km ²

Temperature

To convert from Celsius to Fahrenheit, first multiply by 9/5, then add 32.

To convert from Fahrenheit to Celsius, first subtract 32, then multiply by 5/9

Volume/Capacity

Metric			Imperial
1 cu cm [cm ³]		→	0.0610 in ³
1 cu decimetre [dm ³]	1,000 cm ³	→	0.0353 ft ³
1 cu metre [m ³]	1,000 dm ³	→	1.3080 yd ³
1 litre [L]	1 dm ³	→	1.76 pt
1 hectolitre [hl]	100 L	→	21.997 gal

Imperial			Metric
1 cu inch [in ³]		→	16.387 cm ³
1 cu foot [ft ³]	1,728 in ³	→	0.0283 m ³
1 fluid ounce [fl oz]		→	28.413 mL
1 pint [pt]	20 fl oz	→	0.5683 L
1 gallon [gal]	8 pt	→	4.5461 L

Mass

Metric			Imperial
1 milligram [mg]		→	0.0154 grain
1 gram [g]	1,000 mg	→	0.0353 oz
1 kilogram [kg]	1,000 g	→	2.2046 lb
1 tonne [t]	1,000 kg	→	0.9842 ton

Imperial			Metric
1 ounce [oz]	437.5 grain	→	28.35 g
1 pound [lb]	16 oz	→	0.4536 kg
1 stone	14 lb	→	6.3503 kg
1 hundredweight [cwt]	112 lb	→	50.802 kg
1 long ton (UK)	20 cwt	→	1.016 t