

Name:	Taylor
Instructor:	Samuel Chukwuemeka
Objective:	Convert measurement from one unit to another
Measurement:	Volume
1 <sup>st</sup> given unit:	Customary unit (Fluid Ounce)
To convert to:	Metric Unit (Milliliters)
2 <sup>nd</sup> Given Unit:	Metric Unit (Milliliters)
To convert to:	Customary Unit (Fluid Ounce)
Container Used:	Bubble Gel Cleanser (Please refer to the bottom of the container.)



**First Conversion:** Convert 4.2 fluid ounces to milliliters

Unity fraction method

From given table:

$$1L = 0.26417205 \text{ gal}$$

$$1 \text{ gal} = 4 \text{ qt}$$

$$1 \text{ qt} = 4 \text{ cups}$$

$$1 \text{ cup} = 8 \text{ fl. oz}$$

$$4.2 \text{ fl oz} * \frac{\dots L}{\dots \text{gal}} * \frac{\dots \text{gal}}{\dots \text{qt}} * \frac{\dots \text{qt}}{\dots \text{cup}} * \frac{\dots \text{cup}}{\dots \text{fl. oz}}$$

$$4.2 \text{ fl oz} * \frac{1 L}{0.26417205 \text{ gal}} * \frac{1 \text{ gal}}{4 \text{ qt}} * \frac{1 \text{ qt}}{4 \text{ cup}} * \frac{1 \text{ cup}}{8 \text{ fl. oz}} = 0.1242088253$$

$$0.1242088253 L * \frac{\dots \text{mL}}{\dots L}$$

$$0.1242088253 L * \frac{1 \text{ mL}}{10^{-3} L}$$

$$0.1242088253 L * \frac{1 \text{ mL}}{0.001 L} = 124.2088253 \text{ ml}$$

Rounded up = 125 mL

This is the value on the container. This was done correctly.

**Second Conversion:** 125 milliliters to fluid ounces

Unity Fraction Method

From given table:

$$1 L = 0.26417205 gal$$

$$1 gal = 128 fl oz$$

$$1 mL = 10^{-3} L$$

$$mL * \frac{L}{mL} * \frac{gal}{L} * \frac{fl oz}{gal}$$

$$125mL * \frac{10^{-3}L}{1mL} * \frac{0.26417205 gal}{1 L} * \frac{128 fl oz}{1 gal} = 4.2267528 fl oz$$

Rounded to the nearest tenth = 4.2 fluid ounces

This is the value on the container. This was done correctly.