

Dimensional Analysis HW
(use your conversion factor sheet)

You must show ALL work—do not skip steps!!

1. 20.4 L = ___ cm³
2. 120 oz. = ___ dg
3. 45 cm = ___ in
4. 23 g = ___ lbs
5. 5×10^4 cm = ___ mi
6. 88 gal = ___ mL
7. 1 Gm = ___ mi
8. 0.000456 in = ___ μm (Hint: $1 \mu\text{m} = 1 \times 10^{-6}$ m)
9. 1×10^5 gal = ___ GL
10. 1250 mi = ___ km
11. 6 ft 2 in = ___ m
12. 5.5 L = ___ molecules
13. 75 lbs/gal = ___ g/mL
14. Every three times I clean my bedroom, my mother makes me an apple pie. I cleaned my bedroom 9 times. How many apple pies does she owe me?
15. At Vista Murrieta High School, a senior was applying to college and wondered how many applications she needed to send. Her counselor explained that with the excellent grade she received in chemistry she would probably be accepted to one school out of every three to which she applied [3 applications = 1 acceptance]. She immediately realized that for each application she would have to write 3 essays [1 application = 3 essays], and each essay would require 2 hours of work [1 essay = 2 hours]. Of course, writing essays is no simple matter. For each hour of serious essay writing, she would need to expend 500 calories of energy [1 hour = 500 calories] which she could derive from her mother's apple pies [1 pie = 1000 calories]. How many times would she have to clean her room in order to gain acceptance to 10 colleges? You need to use your answer to #14 to help you answer this problem. I'll help you get started....Begin with 10 acceptances in your bridge.

Selected Answers:

- 2.** 34,090 dg **4.** 0.05 lb **8.** 11.6 μm **14.** 3 pies