

Answer on Question #80663 – Chemistry – General Chemistry

12. The density of helium gas is 0.178 g/L, what is this value in lb/mL?
13. The speed of light is 299792458 m/s, what is this in furlongs/fortnight?

Solution:

12. 1 pound = 453.592 grams

1 L = 1 000 mL

$$0.178 \text{ g} \times \left(\frac{1 \text{ pound}}{453.592 \text{ grams}} \right) = 0.00039 \text{ pounds}$$

$$\frac{0.00039 \text{ pounds}}{1000 \text{ mL}} \approx 4 \times 10^{-7} \text{ lb/mL}$$

13. furlong/fortnight = 1.663×10^{-4} m/s

$$\frac{299792458 \text{ m/s}}{1.663 \times 10^{-4} \text{ m/s}} \times \frac{1 \text{ furlong}}{1 \text{ fortnight}} = 1\,802\,720\,733\,613 \text{ furlongs/fortnight}$$

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