

## Answer on Question #75954 – Chemistry – General Chemistry

9. A pencil is 6.20 inches long. What is its length in centimeters? There are 7.1 L of water in a container. Calculate the volume of water in gallons. A road sign indicates a speed limit of 55 miles per hour. What is this speed limit in kilometers per second?

10. Perform the following calculation and record the answer with the correct number of significant figures.

$$(6.5-6.31)/3.04$$

$$11. (34.123+7.50)/(98.7654-6.367)$$

### Solution:

$$9. \text{ cm} = 2.54 \times \text{inches}$$

$$6.20 \text{ inches} = 2.54 \times 6.20 = 15.748 \text{ cm} \approx 15.75 \text{ cm}$$

$$\text{US gal (liquid)} = \text{L} \times 0.26417$$

$$7.10 \text{ L} = 7.10 \times 0.26417 = 1.87561 \text{ gal} \approx 1.88 \text{ gal}$$

$$\text{kilometers per second} = \text{miles per hour} \times 0.00044704$$

$$55 \text{ miles per hour} = \times 0.00044704 \times 55 = 0.0245872 \text{ km/s} \approx 0.02 \text{ km/s}$$

$$10. (6.50 - 6.31)/3.04 = 0.06$$

$$6.50 - 6.31 = 0.19$$

$$0.19 / 3.04 = 0.06$$

$$11. (34.123 + 7.50) / (98.7654 - 6.367) = 0.4504$$

$$34.123 + 7.50 = 41.62$$

$$98.7654 - 6.367 = 92.398$$

$$41.62 / 92.398 = 0.4504$$

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