

Quiz 1.2 – Measurements and Numbers

Name: _____

Question 1

Give the total number of significant figures and the position of the least significant digit in each quantity"

1.250 *g* 6.022×10^{23} 0.00215 *L* 3500 *km* $2.590 \times 10^{-7} \text{ m}$ **Question 2**

Give the solution to each expression with the proper number of significant figures

$$x = 23.14 \text{ cm} + 4.105 \text{ cm} \quad x = \frac{0.12 \text{ mol}}{1.53 \text{ L}} \quad x = 94 \mu\text{s} - 8.7 \times 10^{-5} \text{ s} \quad x = \frac{12.4 \text{ g} + 1.94 \text{ g}}{20.4 \text{ cm}^3 - 3.47 \text{ cm}^3}$$

Question 3Later in this course we will use the following equation: $v_{rms} = \sqrt{\frac{3RT}{M}}$ Find the units of v_{rms} if R has units $\frac{J}{\text{mol K}}$, T has units K , M has units $\frac{kg}{\text{mol}}$, and $J \equiv \frac{kg \text{ m}^2}{s^2}$ **Question 4**

Complete the following table:

Decimal Quantity	Scientific Notation	Prefix Notation
0.0045 <i>m</i>	_____	_____
_____	_____	36 <i>Mm</i>
_____	$5.60 \times 10^{-7} \text{ m}$	_____

Птичка (A Little Bird)

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В чужбине свято наблюдаю
Родной обычай старины:
На волю птичку выпускаю
При светлом празднике весны.

Я стал доступен утешенью;
За что на бога мне роптать,
Когда хоть одному творенью
Я мог свободу даровать!

In alien lands I keep the body
Of ancient native rites and things:
I gladly free a little birdie
At celebration of the spring.

I'm now free for consolation,
And thankful to almighty Lord:
At least, to one of his creations
I've given freedom in this world!