

Quiz One Review

Name: KEY

If you could rename yourself: lock

Scientific Notation Review

standard notation	scientific notation	# of sig figs in both
1,300	1.3×10^3	2
<u>0.00240</u>	2.40×10^{-3}	3
0.0054	5.4×10^{-3}	2
<u>100.</u>	1.00×10^2	3
100	1×10^2	1
<u>673,000</u>	6.73×10^5	3

Sig Figs Review: count up and underline all of the sig figs in these measurements:

- a) 450 g b) 0.0060 g c) 50.0 mL d) 3.40 mL e) 1.050 mg f) 0.5 mL
 2 2 3 3 4 1
- g) 342.0 g h) 900 g i) 809 mL j) 1.30 x 10³ g k) 0.0010 kg
 4 1 3 3 2

Sig Figs Math: perform the following math operations, rounding to the correct number of sig figs

- | | | | | |
|------------------------|---------------|---|---------------------------|----------------|
| a) 39.1 m x 5.4 m = | <u>211.14</u> | = | <u>210</u> m ² | } X and % rule |
| b) 15.40 g / 3.2 mL = | <u>4.8125</u> | = | <u>4.8</u> g/mL | |
| c) 16.00 g / 4.00 mL = | <u>4</u> | = | <u>4.00</u> g/mL | } + and - rule |
| d) 4.320 g + 10.3 g = | <u>14.62</u> | = | <u>14.6</u> g | |
| e) 73.957 g - 10. g = | <u>63.957</u> | = | <u>64</u> g | |

Conversions:

a) 5490 mg $\left(\frac{1g}{1000mg}\right)$ = 5.49 g

b) 30. $\frac{km}{hr} \left(\frac{1000m}{1km}\right) \left(\frac{1hr}{60min}\right) \left(\frac{1min}{60sec}\right)$ = 8.3 $\frac{m}{sec}$

c) A bus is heading towards the Oregon country fair with exactly 1.05 L of patchouli oil to "freshen up" the hippie masses. There are 3,000. pungent hippies there, each one in need of one "dose" of patchouli oil. One dose of oil is equivalent to five drops. Four drops equals 0.5 mL. Is there enough patchouli oil to ameliorate this skunky situation? Do as unit conversion problem, showing units canceling.

$1.05 L \left(\frac{1000mL}{1L}\right) \left(\frac{4drops}{0.5mL}\right) \left(\frac{1dose}{5drops}\right) \left(\frac{1hippy}{1dose}\right) =$ 1680 hippies will get dose

not enough patchouli!!