

1. How many significant figures are present in the following:

0.0025 , 2.0034 and 500.0

2. Convert the following using unit factor method:

(a) 200 pm to Å      (b) 400 nm to  $\mu\text{m}$

3. Calculate the mass % (5 composition) of each element in the following:

(a)  $\text{HNO}_3$       (b)  $\text{NH}_4\text{Cl}$

4. Calculate the molecular masses for the following :

$\text{H}_2\text{SO}_4$  ,  $\text{CH}_3\text{CH}_2\text{OH}$  and  $\text{NaHCO}_3$

5. Write dissociation for the following

$\text{Al}_2(\text{SO}_4)_3$  and  $\text{Na}_3\text{PO}_4$

6. An electronic balance used in the mailroom displays tenths of a kilogram from 0 to 140 Kg. How many significant figures should be used to express the mass of any packages whose mass is between 80.2 and 83.5 kg?

7. Sodium is an essential constituent of our body. Calculate the percentage of sodium in the breakfast cereal which has been advertised to contain 40 mg of sodium per 50 kg of cereal.

8. Express the following in scientific notation:

(a) 23.004      (b) 0.00321      (c) 205

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