METHODS USED IN SOLVING ISOTOPE PROBLEMS

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Abstract: In the article from chemistry to isotopes about issues of solving educational importance , one issue each different in methods solve ways statement done.
Key words: Educational significance , algebraic method , diagonal method , isotope , average mass , proportion .

From chemistry issues yesterday to know this science creative of mastering main criterion organize does   it's a pity issues to solve everyone there is enough time level attention is not given . Chemistry in their classes theoretical materials to teach with together always equal to respectively experimental and to count about issues to solve to teach positive the result will give . Mostly from chemistry everyone of issues content with the first in line theory , law , process , substances properties and chemical of reactions to go processes and chemical the equation to compose in the eye holds   Issues always taking off to go from chemistry and near from the sciences received knowledge in practice similar and new in the circumstances to apply possibility will give . Of these all high level with reflection   makes sense thinking requirement is enough

Chemistry in their classes from mathematics first occupied of knowledge wide training for use material conscious respectively understand get and him in practice apply also to the students chemical issues to solve in learning important . [1]

Students chemistry from science received theoretical knowledge matter for strengthening and exercises independent work to get important important have

From chemistry all the issue to be worked on and exercises conditional 2 main respectively to the group to be possible : chemical formulas based on solve and reaction equations based on calculations . But the issues a must and contents very different   to be can   Next in years non-standard to issues related test tasks a lot announcement is being done and in test cases is being used . That's it point of view from the point of view such issues solve separately important have   [3]

Chemical exercise and issues solve common medium education school of students practical in life necessary to be the most important of competencies one is counted . Chemical issues chemical concepts , theories , laws essence open to give service does

Matter his to solve clearly the plan make up get and opportunity as long as short , comfortable method with to solve it is necessary to act . Har how in the case of solving the problem which method choose of the matter provided come comes out [4]

From chemistry issues yesterday get this student and students creativity abilities in raising important important have   From chemistry to count circle issues in solving student and students only chemical of knowledge only by using without staying , maybe biology , mathematics , physics from sciences received they also use their knowledge . And this own in turn student and students creative abilities only by developing without remaining , another the sciences are also deep to learn directs . Especially the student and students creative abilities chemical issues solve through in development chemical to count about issues solve methods separately important has

Below we are one issue each different in methods solve to the roads circle from issues samples cause , resolve methods recommendation we deliver :

Issue 1.

^{45}Sc isotope in the core how many percentage neutron is there

Solution :

Sc (n)=45-21=24 ha equal to   Answer : 53 , 3%

45 100% ——

25 x=53.3% ——

Issue 2.

of argon three isotope . ^{36} Ar mass share 0.3 %, ^{38} Ar 0.7%, ^{40} Ar 99%, this to data based on without natural of argon relative atomic mass

find

Solution :

Method 1:

1) In this issue in solving given mass shares amount to connect

is transferred , that is , 100 ha is divided .

n(^{36} Ar)= 0.3/100=0.003

n(^{38} Ar)= 0.7/100=0.007

n(^{40} Ar)= 99/100=0.99

2) Mol shares sum is always equal to 1 will be (0.003+0.007+0.99=1)

3) Each one came out amount shares their own relative to atoms by multiplying

will be released and common is summed up .

$0.003 \cdot 36 + 0.007 \cdot 38 + 0.99 \cdot 40 = 39.974$

2 . Medium arithmetic value to find based on solving

M(average)=$36 \cdot 0.3 + 38 \cdot 0.7 +$

$+40 \cdot 99/100=39,974$

Answer : Argon relative atomic mass is 39.974 ha equal to

Issue 3.

Neon relative atomic mass is 20.2 ha from equal neon 2 isotopes organize found (^{20} Ne and ^{22} Ne) naturally in neon each which of isotopes molar shares count

Solution :

Method   1:   2) So neon is in the atom mass is 20 ha equal
1) Isotopes molar shares sum to 1 equality   to has been 1.8 parts of the isotope
knew

^{22} Ne 0.2 part there is it is In this simple

without as follows equation is made .

^{20}Ne 's mol share -X to ,

^{22}Ne 's mol share and to (1-X). equal to

2) So 20X+22(1- X)= 20.2

20X+22-22X=20.2

2X=1.8

X=0.9 or 90% ^{20}Ne

This 20 isotype of neon as X in the equation set 90 % for what we get equal to it has been .

4) 1-0.9=0.1

x100%=10%(^{22}Ne)

Method 2.

1) In this given the atomic mass of the isoplane to the diagonal left

of the element average atomic mass while to the middle is written and diagonal from them will be held .

20 1.8(20-20.2=1.8)

20.2

22 0.2(20.2-20=0.2)

proportion method with , in neon each which

isotope from the atom how many from percent presence counting is found .

X=1.8/2

Method 3:
First, 1 mol of gases in the mixture how that there is ^{20}Ne in the amount (mol).

identify we can ^{20} isotope of Ne quantity (mol) is conditional as "y" , ^{22}Ne

isotope and specifying the amount (mol) as "x". we can and the following equations

the system let's make :

22x+20y=20.2

x + y = 1

x=0.1 y=0.9

0.9mol of ^{20}Ne isotope in 1mol of mixture there is it is so there are 90 % ^{20}Ne, 10% ^{22}Ne it is

Answer : 90% ^{20}Ne, 10% ^{22}Ne.

Issue 4.

Natural atomic mass of boron is 10.81 ha equal to being ^{10}B and ^{11}B isotopes

is a mixture . That 's natural there is of isotopes percentage amounts

define

Solution :

Method 1:
^{10}B isotope percentage quantity x and ^{11}B isotope percentage amount to (100-x). Multiply and produce has been multiples we add and the total face we will be The result should be 10.81 need   This from equality using issue let's solve

$10x+11(100-x)$

$10x+1100-11x=1081$

$-x=-19$ to $x= 19$

^{10}B =19%, ^{11}B =100-19=81%.

Method 2:
This solve the problem diagonally as well can

10 0.81

10.81

11 0.19
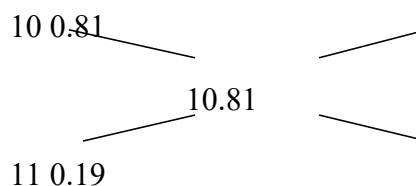
Answer ^{10}B=19%, ^{11}B=81%.

Issue 5.

In nature spread out 78.6% of magnesium ^{24}Mg isotope 10.1 % ^{25}Mg and 11.35 ni ^{26}Mg isotope organize is enough of magnesium average find the relative atomic mass .

Solution :

This issue in solving all isotopes are taken as 100% , each one isotopes weights counting is found

$M(\text{average})=24\cdot0.786+25\cdot0.101+26\cdot0.113=$
$=18.864+2.525+2.938=24.327$

Answer : 24,327 gr

Summary by doing to say as for the students independent knowledge get process organize reach and from him to the goal according to use education process of improvement strong factor as service to do very is necessary . Chemistry study   of the subject inorganic and organic chemistry department study of materials volume and content , didactic variety , assimilation   point of view in terms of much complexity with separate stands   But this of the matter inorganic and organic chemistry to study related part almost not worked In this regard deficiency eliminate reach in order to theoretical knowledge , practical skill and qualifications in formation chemistry teaching with depends in processes students issues solve of work place position and education in practice weight was determined . of students from chemistry issues to solve comfortable mathematician of methods , logical thinking solving , especially the most of science important from the topics has been isotopes to find methods given

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