Average atomic mass of isotopes

Calculating the average atomic mass

- Element "X"
- Natural abundance of isotope X
- 10% = 4 amu
- 30 % = 5 amu
- 60 % = 6 amu

- 0.10 x 4 = 0.4 amu
- 0.30 x 5 = 1.5 amu
- 0.60 x 6 = 3.6 amu
- 0.4 + 1.5 + 3.6 = 5.5
- Average mass = 5.5
- This is the mass on the periodic table

Practice

- Element Q
- 25% = 15 amu
- 10% = 16 amu
- 10% = 17 amu
- 55% = 18 amu

- Find the average mass

- 0.25 x 15 = 3.75
- 0.10 x 16 =1.6
- 0.10 x 17 = 1.7
- 0.55 x 18 =9.9

- Total = 16.95
- Average = 16.95 amu

Atomic mass

- 19.9% of the atoms of this element contain 5 p^+ and 5n^o in their nucleus

- The other atoms of this element have 6n^o in their nucleus

- What element is it? Calculate the average atomic mass