

Name: Key

Average Masses

Calculate the average masses (atomic mass) of the given atoms using the supplied data. Show your work!!!! Use the periodic table to check answers (note that numbers may not be exact).

1.	<u>Isotope</u>	<u>Mass in a.m.u.</u>	<u>Natural Abundance</u>
	${}^6_3\text{Li}$	6.015	7.5% $(6.015)(0.075) = 0.45$
	${}^7_3\text{Li}$	7.016	92.5% $(7.016)(0.925) = 6.49$
			$0.45 + 6.49 = 6.94 \text{ amu}$

2.	<u>Isotope</u>	<u>Mass in a.m.u.</u>	<u>Natural Abundance</u>
	${}^{10}\text{B}$	10.0129	19.9% $(10.0129)(0.199) = 1.99$
	${}^{11}\text{B}$	11.0093	80.1% $(11.0093)(0.801) = 8.82$
			$1.99 + 8.82 = 10.81 \text{ amu}$

3.	<u>Isotope</u>	<u>Mass in a.m.u.</u>	<u>Natural Abundance</u>
	magnesium - 24	23.985	78.99% $(23.985)(0.7899) = 18.95$
	magnesium - 25	24.986	10.00% $(24.986)(0.1000) = 2.499$
	magnesium - 26	25.983	11.01% $(25.983)(0.1101) = 2.861$
			$18.95 + 2.499 + 2.861 = 24.31 \text{ amu}$