Name _____ Period _____ Date _____

More Average Atomic Mass

Calculate the average atomic masses. Round all answers to two decimal places.

1. What is the atomic mass of hafnium if, out of every 100 atoms, 5 have a mass of 176, 19 have a mass of 177, 27 have a mass of 178, 14 have a mass of 179, and 35 have a mass of 180.0?

2. Iodine is 80% ^{127}I, 17% ^{126}I, and 3% ^{128}I. Calculate the average atomic mass of iodine.

3. Calculate the average atomic mass of gold with the 50% being gold-197 and 50% being gold-198.

4. Calculate the average atomic mass of lithium, which occurs as two isotopes that have the following atomic masses and abundances in nature: 6.017 u, 7.30% and 7.018 u, 92.70%.

5. Hydrogen is 99% ^{1}H, 0.8% ^{2}H, and 0.2% ^{3}H. Calculate its average atomic mass.

6. Calculate the average atomic mass of magnesium using the following data for three magnesium isotopes.

Isotope	***mass (u)***	***relative abundance***
Mg-24	23.985	0.7870
Mg-25	24.986	0.1013
Mg-26	25.983	0.1117

7. Calculate the average atomic mass of iridium using the following data for two iridium isotopes.

Isotope	***mass (u)***	***relative abundance***
Ir-191	191.0	0.3758
Ir-193	193.0	0.6242

8. Lithium has two naturally occurring isotopes: lithium-6 and lithium-7. If the average atomic mass of lithium is6.941 amu, which isotope is the most abundant? How do you know?

Name _____ Period _____ Date _____

More Average Atomic Mass

Calculate the average atomic masses. Round all answers to two decimal places.

9. What is the atomic mass of hafnium if, out of every 100 atoms, 5 have a mass of 176, 19 have a mass of 177, 27 have a mass of 178, 14 have a mass of 179, and 35 have a mass of 180.0?

178.55 amu

10. Iodine is 80% ^{127}I, 17% ^{126}I, and 3% ^{128}I. Calculate the average atomic mass of iodine.

126.86 amu

11. Calculate the average atomic mass of gold with the 50% being gold-197 and 50% being gold-198.

197.5 amu

12. Calculate the average atomic mass of lithium, which occurs as two isotopes that have the following atomic masses and abundances in nature: 6.017 u, 7.30% and 7.018 u, 92.70%.

6.94 amu

13. Hydrogen is 99% ^{1}H, 0.8% ^{2}H, and 0.2% ^{3}H. Calculate its average atomic mass.

1.01 amu

14. Calculate the average atomic mass of magnesium using the following data for three magnesium isotopes.

Isotope	***mass (u)***	***relative abundance***
Mg-24	23.985	0.7870
Mg-25	24.986	0.1013
Mg-26	25.983	0.1117

24.31 amu

15. Calculate the average atomic mass of iridium using the following data for two iridium isotopes.

Isotope	***mass (u)***	***relative abundance***
Ir-191	191.0	0.3758
Ir-193	193.0	0.6242

192.25 amu

16. Lithium has two naturally occurring isotopes: lithium-6 and lithium-7. If the average atomic mass of lithium is6.941 amu, which isotope is the most abundant? How do you know?

Lithium-7 because the average atomic mass is closer to 6 than to 7