

**Isotopes**  
**CHEMISTRY 110**

Name \_\_\_\_\_  
last first

1. Fill in the blanks with the correct answers for the following:

<i>Symbol</i>	<i># of Protons</i>	<i># of Electrons</i>	<i># of Neutrons</i>	<i>Net Charge</i>
$^{106}_{46}\text{Pd}$	_____	_____	_____	_____
Copper-64	_____	_____	_____	_____
$^{88}_{38}\text{Sr}^{2+}$	_____	_____	_____	_____
$^{31}_{15}\text{P}^{3-}$	_____	_____	_____	_____
_____	_____	28	33	3+
_____	_____	18	19	2-

2. Write complete symbols  $\left( \begin{matrix} A \\ \text{Symbol} \\ Z \end{matrix} \right)$  for the following:

- An isotope of Chromium that has 3 more neutrons than  $^{54}_{24}\text{Cr}$ . \_\_\_\_\_
- An atom of O that has 4 more subatomic particles than  $^{13}\text{C}$ . \_\_\_\_\_
- An atom of Silver which has the same number of electrons, protons, and neutrons. \_\_\_\_\_
- An atom with 6 more neutrons and 3 more protons than  $^{37}\text{Cl}$ . \_\_\_\_\_
- An isotope of Bromine that contains the same number of neutrons as Arsenic-74. \_\_\_\_\_
- An isotope of Manganese that contains the same number of subatomic particles as Cobalt-60. \_\_\_\_\_