Practice Problems Section 2.3

1) The atomic number indicates \_\_\_\_\_\_\_\_\_\_.

A) the number of neutrons in a nucleus

B) the total number of neutrons and protons in a nucleus

C) the number of protons or electrons in a neutral atom

D) the number of atoms in 1 g of an element

E) the number of different isotopes of an element

2) Which pair of atoms constitutes a pair of isotopes of the same element?

A) 14X6 14X7

B) 14X6 12X6

C) 17X9 17X8

D) 19X10 19X9

E) 20X10 21X11

3) Of the following, the smallest and lightest subatomic particle is the \_\_\_\_\_\_\_\_\_\_.

A) neutron

B) proton

C) electron

D) nucleus

E) alpha particle

4) All atoms of a given element have the same \_\_\_\_\_\_\_\_\_\_.

A) mass

B) number of protons

C) number of neutrons

D) number of electrons and neutrons

E) density

5) Which atom has the smallest number of neutrons?

A) carbon-14

B) nitrogen-14

C) oxygen-16

D) fluorine-19

E) neon-20

6) There are \_\_\_\_\_\_\_\_\_\_ electrons, \_\_\_\_\_\_\_\_\_\_ protons, and \_\_\_\_\_\_\_\_\_\_ neutrons in an atom of .

A) 132, 132, 54

B) 54, 54, 132

C) 78, 78, 54

D) 54, 54, 78

E) 78, 78, 132

7) Which isotope has 45 neutrons?

A) 80Kr36

B) 80Br35

C) 78Se34

D) 34Cl17

E) 103Rh45

8) Which isotope has 36 electrons in an atom?

A) 80Kr36

B) 80Br35

C) 78Se34

D) 34Cl17

E) 36Hg80

9) Isotopes are atoms that have the same number of \_\_\_\_\_\_\_\_\_\_ but differing number of \_\_\_\_\_\_\_\_\_\_.

A) protons, electrons

B) neutrons, protons

C) protons, neutrons

D) electrons, protons

E) neutrons, electrons

10) The nucleus of an atom contains \_\_\_\_\_\_\_\_\_\_.

A) electrons

B) protons

C) neutrons

D) protons and neutrons

E) protons, neutrons, and electrons