

Copy of Atomic Structure Quiz

Score:

# 1. Which of the following isotopes of zinc would have the highest relative abundance? (2 pts)

Zinc - 64

A

B

C

D

Zinc - 67

Zinc - 68

Zinc - 70

# 2. One atom contains 29 protons and 34 neutrons. Another atom of the same element has a mass number of 65. How many protons and neutrons does this unknown (the second atom mentioned) have? (2 pts)

28 protons, 37 neutrons

A

B

C

D

29 protons, 36 neutrons

29 protons, 35 neutrons

31 protons, 34 neutrons

3. In a sample of pure copper, all atoms have: (2 pts)

A

B

C

D

the same atomic number and the same number of protons

a different atomic number and a different number of protons

a different atomic number, but the same number of protons

the same atomic number, but a different number of protons

# 4. How does oxygen form an ion with a negative two charge? (2 pts)

A

B

C

D

Gaining two protons

Losing two protons

Gaining two electrons

Losing two electrons

# 5. How many protons, neutrons, and electrons are in a neutral atom of arsenic-76? (2 pts)

A

B

C

D

33, 43, 33

33, 33, 33

76, 33, 43

33, 33, 43

# 6. Which of the following identifies a pair of isotopes? (2 pts)

Element A: 44 protons, 44 neutrons, 44 electrons

A

B

C

D

Element B: 43 protons, 44 neutrons, 43 electrons

Element A: 24 protons, 22 neutrons, 23 electrons

Element B: 24 protons, 22 neutrons, 25 electrons

Element A: 34 protons, 30 neutrons, 34 electrons

Element B: 34 protons, 33 neutrons, 34 electrons

Element A: 24 protons, 24 neutrons, 24 electrons

Element B: 24 protons, 24 neutrons, 24 electrons

# 7. How many protons, neutrons, and electrons are in an ion of iron with a mass of 57 and a charge of +3? (2 pts)

26, 31, 23

A

B

C

D

E

26, 31, 26

26, 31, 29

26, 57, 23

26, 57, 29

# 8. The most abundant isotopes of silicon are silicon-28, silicon-29, and silicon-30. Knowing that silicon - 28 has an abundance of 92.2% and silicon-29 has an abundance of 4.7%, what is the average atomic mass of silicon? You MUST show your work. (3pts; 2 pts for work, 1 pt for answer)

# 9. The two naturally occurring isotopes of hydrogen are hydrogen-1 (1.00783 amu; 99.9885 percent) and hydrogen-2 (2.01410 amu; 0.0115 percent). What is the average atomic mass of hydrogen? You MUST show your work. (3pts; 2 pts for work, 1 pt for answer)