

Name: Key Date: _____ Hour: _____

Chemistry Final Exam Study Guide

19. Describe a neutron. * 1 amu * Found in nucleus

* Neutral charge (0 charge)

20. Describe an electron. * 0 amu

* Negative charge (-1 charge)

* Found in orbital

21. What is an isotope. Give examples.

^{12}C ^{13}C ^{14}C

Same number of protons, different number of neutrons

22. In what ways are all elements the same?

All are made up of subatomic particles (protons, neutrons, electrons)

23. In what ways do elements differ from each other?

The number of subatomic particles (protons, neutrons, electrons)

24. Choose 5 elements. Make a chart indicating the symbol for the element, the number of

protons, neutrons, and electrons.

25. Make a chart like the one for the previous question, but do so for 3 possible isotopes of

Carbon.

26. How do chemists determine an element's atomic number?

by counting the number of protons

27. How do chemists determine an element's atomic mass?

by adding protons and neutrons

28. What is the difference between average atomic mass and atomic mass number?

takes into consideration all atoms/elements → mass of a specific atom/element

29. Give the electron configuration for an element from each of the following blocks on the

S-block: Na $1s^2 2s^2 2p^6 3s^1$ P-block: O $1s^2 2s^2 2p^4$

periodic table: s-block, p-block, d-block.

d-block: Zn $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10}$

30. What are the two exceptions to the "rules" when it comes to doing electron configurations? What

are the electron configurations of these two elements? Chromium has a configuration of $[\text{Ar}] 4s^1 3d^5$

31. Draw the following basic orbital shapes: s, p, d, f

s ○ p ∞ d ∞ f (good luck drawing)

32. What is atomic radius?

It describes how large the atom is

33. Describe the trend in atomic radius on the periodic table.

