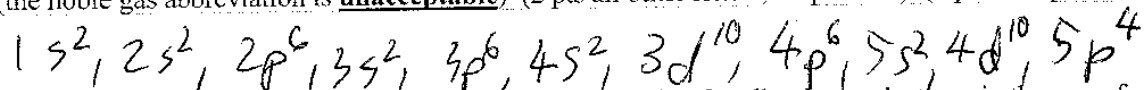


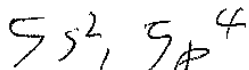
Name key Print Name _____

Please show work on all questions for partial credit even on questions which do not specify. (25 total pts)

a. For the element **Te** show the electron configuration for all electrons in the format $1s^2, 2s^2, \dots$ etc (the noble gas abbreviation is **unacceptable**) (2 pts all other letters, 25 pts total) (3 pts this questions)



b. For the same element show the electron configuration for all **valence** electrons in the same format.



c. For the same element, show the **valence electron configuration orbital diagram** in the format:

{ \uparrow \downarrow etc} using up and down arrows to represent electrons. (OK to write all on one line)



d. For the same element, what is the group number? 6 (6A intable provided)

e. For the same element, what is the atomic mass? 127.60

f. For the same element, what is the atomic number? 52

g. For a neutral atom, how many total electrons does the element have? 52 e⁻

h. How many valence electrons does the element have? 6 e⁻

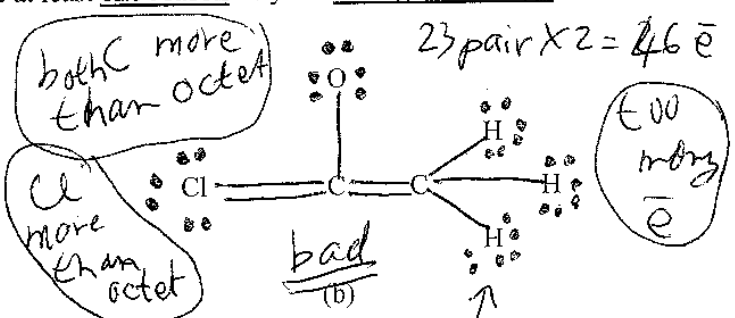
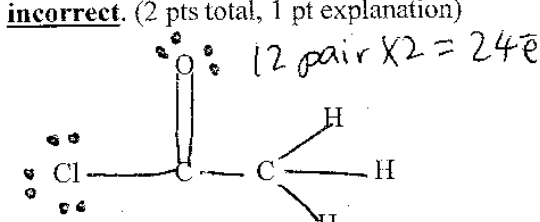
i. Give the symbol of one **Main Group element** Li, F, Ar, etc...

j. What is the maximum number of electrons allowed in the **d subshell**? 10 e⁻

k. How many orbitals are in the **d subshell**? 5 orbitals

l. What is the maximum number of electrons allowed in one orbital? 2 e⁻

Extra Credit: Given the following Lewis dot structures, which is the correct Lewis Dot structure? Circle the letter under the **correct structure** and then give at least **one reason** why the **wrong structure is incorrect**. (2 pts total, 1 pt explanation)



valence e⁻ = 7 e⁻ (Cl) + 6 e⁻ (O) + (4 e⁻)₂ + (1 e⁻)₃ = 24 e⁻

Name _____ Print Name _____

Please show work on all questions for partial credit even on questions which do not specify. (25 total pts)

a. For the element **Te** show the electron configuration for all electrons in the format $1s^2, 2s^2, \dots$ etc (the noble gas abbreviation is **unacceptable**) (2 pts all other letters, 25 pts total) (3 pts this questions)

b. For the same element show the electron configuration for all **valence** electrons in the same format.

c. For the same element, show the **valence electron configuration orbital diagram** in the format:

{ $\uparrow\downarrow$ \downarrow etc} using up and down arrows to represent electrons. (OK to write all on one line)
 $1s$ $2s$

d. For the same element, what is the group number? _____

e. For the same element, what is the atomic mass? _____

f. For the same element, what is the atomic number? _____

g. For a neutral atom, how many total electrons does the element have? _____

h. How many valence electrons does the element have? _____

i. Give the **symbol of one Main Group element** _____

j. What is the maximum number of electrons allowed in the **d subshell**? _____

k. How many orbitals are in the **d subshell**? _____

l. What is the maximum number of electrons allowed in one orbital? _____

Extra Credit: Given the following Lewis dot structures, which is the correct Lewis Dot structure? Circle the letter under the **correct structure** and then give at least **one reason** why the **wrong structure is incorrect**. (2 pts total, 1 pt explanation)

