

1) this page / 40 + 2) made / 60 = 3) TOTAL [] / 100

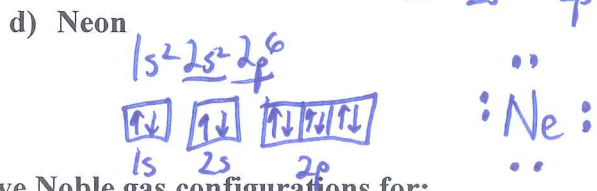
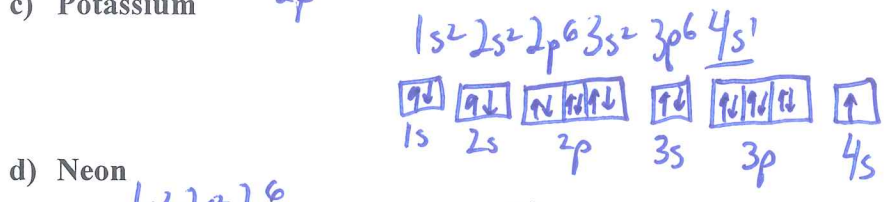
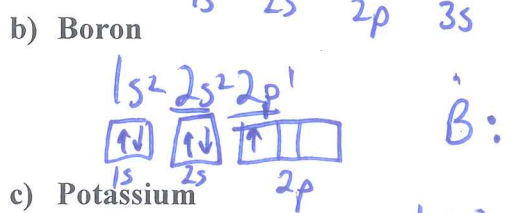
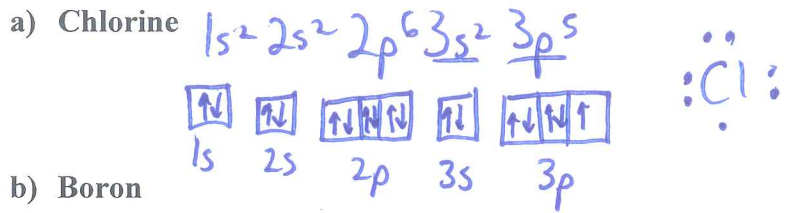
Name: CALVIN
 Date:
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 Favorite holiday:

Chemistry ~ Ch.5 ~ Answer sheet
 SHOW WORK! SIG DIGS! Box in answers!

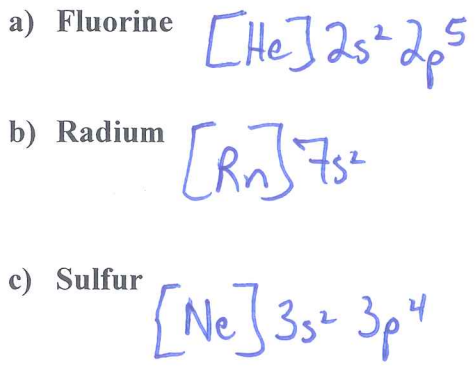
21) Write electron configuration, arrow diagram, and Lewis dot diagram for:

3pts each

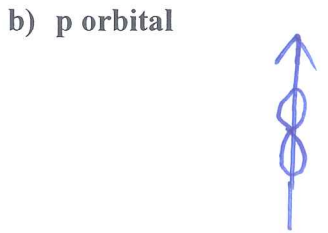
- (17)
- (5)
- (19)
- (10)



22) Give Noble gas configurations for:



23) Draw each orbital:



24) Complete the chart:

Sublevel	Orbitals	Maximum # electrons
s	<u>1</u>	2
<u>P</u>	3	6
d	5	<u>10</u>
f	<u>7</u>	14

25) Explain Aufbau's principle:

Fill lowest energy level first

26) Explain Hund's rule:

Keep electrons separated until necessary

27) If the speed of light is 3.00×10^8 m/s, determine the frequency of light with a wavelength of 4.257×10^{-7} cm. SHOW WORK! UNITS! SIG DIGS! BOX ANSWER!

$c = 3.00 \times 10^8 \text{ m/s}$

$v = ?$

$\lambda = 4.257 \times 10^{-7} \text{ cm} \rightarrow 4.257 \times 10^{-9} \text{ m}$

$v = \frac{c}{\lambda} = \frac{(3.00 \times 10^8 \text{ m/s})}{(4.257 \times 10^{-9} \text{ m})} =$

$7.05 \times 10^{16} \text{ Hz}$ or $7.05 \times 10^{16} /s$

3pts
work
answer
units

28) Given that the electron configuration for phosphorus is $1s^2 2s^2 2p^6 3s^2 3p^3$, answer the following.

a) How many electrons? 15

b) What is the atomic number of this element? 15

c) Give the arrow diagram for $3p^3$ ↑ ↑ ↑

d) Phosphorus adds 3 electrons to form an octet. What is the charge of this ion? -3

e) How many electrons must be added to fill the 3^{rd} energy level? 3

f) What is the highest occupied energy level? 3rd

Go VIKINGS!!