Print name _____

Sign name _____ circle registration section below _____

CIRCLE your recitation section in the list below.

Section	A	Fri 10 am, Aiqin Fang	B	Fri 11 am, Aiqin Fang
	C	Tue 3 pm, Rahul Jain	D	Tue 1 pm, Rahul Jain
	F	W 10 am, Neeraj Kumar	G	Wed 2 pm, Rahul Jain

Cell phones, PDAs, mp3 players, and other electronic devices must be turned off and stowed out of sight (your sight and mine). Calculator policy is in effect. Infractions will cost you points!

Please clearly and legibly write your name, in ink, at the top of every page. Your score will not be recorded and your exam will not be returned if this is not done.

All answers should be rounded to the appropriate precision (correct significant figures.)

Atomic weights are provided in the Periodic Table. These values must be used.

You may not use any outside paper. If you reach a point where you need more scratch paper than the space available on this page and on the back of your exam, ask a proctor.

Be certain your answers are clear. If an answer is not clear, it will probably be considered wrong.

Problems marked with ** in the margin are directly from the assigned homework (either in the text or on worksheets in class).

Use your time effectively.

Time is up at 8:50!!

Potentially useful information:
6.022×10^{23}

60 seconds = 1 minute
60 minutes = 1 hour
5280 feet = 1 mile = 1.609 km
1 mL = 1 cm^3

last name_____

Scored grade (instructor use only!)_____

1. [4 points] What is the mass, in grams, of 2.30 moles of iodine tribromide? Circle the correct answer.

5.15×10^{-3}	6.27×10^{-3}	8.02×10^{-3}	0.0111	2.30	89.9
125	159	194	206.8	286.7	366.6
446.5	476	659	843	1030	

2. [6 pts] Fill in the table below:

Element Symbol	# protons	# neutrons	# electrons	mass #	charge
Fe		30			+3
	8	9	10		

3. [10 pts] Give the **correct name** for each of the following. Spelling counts.

_____ SO_3

_____**UO

_____**MgH_2

_____**$Ca(ClO)_2$

_____ **PCl_3

4. [10 pts] Give the correct **chemical formula** for each of the following.

_____ **butane

_____ **iron(III) sulfide

_____ **potassium permanganate

_____ **diselenium hexasulfide

_____ **sodium oxalate

last name_____

5. [12 pts] Supply the **symbol** of the correct element for each of the following descriptions. In some cases there could be more than one acceptable answer; pick **one**.

_____ A metal in Period 2.

_____ The Period 4 alkaline earth element.

_____ An element that appears as diatomic molecules.

_____ An element that forms cations of variable charge.

_____ An element that does not form ionic compounds.

_____ An element that forms both covalent and ionic compounds.

6. [18 pts] **Clearly** indicate whether each statement is TRUE or FALSE. If we can't tell which you mean, it's wrong.

_____The value 0.0020420 has five significant figures.

_____All diatomic elements are gases at room temperature.

_____**All isotopes of one element have the same number of protons.

_____All nonmetals are main-group elements.

_____The most likely mass number for a phosphorus atom is 30.97.

_____1.0 mole of O_2 contains 6.0×10^{23} molecules.

_____Hydrogen carbonate anion carries a -2 charge.

_____ $1\ m^3 = 10^9\ mm^3$.

_____ Together, the electrons and protons in an atom or ion determine the charge.

7. [5 pts] In the list below, (a) **circle** all compounds that are covalent; (b) draw a **square** around any species that contain(s) **both** covalent and ionic bonds. Make sure your answer is clear.

SO_2 $CuCO_3$ NBr_3 Fe_2O_3 $(NH_4)_2NO_3$

8. [10 pts]**In the space below, write and balance the equation for the following reaction:
Ammonia and nitrogen monoxide react to produce nitrogen gas and water.