Name: _____ Pd: ___ Date: _____
SOL Review Packet

*******REMEMBER REVIEW IS TO HELP YOU LEARN WHAT ITEMS YOU HAVE TROUBLE WITH – DO NOT SKIP THE PROBLEMS YOU DO NOT UNDERSTAND, ASK FOR HELP!!!!!**

Provide the answers to the following questions.

1. How many meters are in 1.5 kilometers? __1500m_____
2. How many grams are in 20 kilograms? __20000g_____
3. How many milliliters are in 3.7 liters? __3700ml_____
4. How many milligrams are in 6.8 grams? _6800g_____

Write the following numbers in scientific notation.

5. 14,729 __1.4729×10^4_____
6. 369 __3.69×10^2_____
7. 0.0059 __5.9×10^{-3}_____

Give the number of significant figures in the following numbers.

8. 26,400 __3_____
9. 0.0140 __3_____

10. Round off 26,060 to three significant figures. __26100_____

11. Solve and express your answer in scientific notation. _1.0×10^{11}_____

$$\frac{625 \times 5200}{0.0013 \times 0.025}$$

12. A group measures a quantity and the result is 25.9. The actual value is 25.6. What is the percent error in the measurement?

$$\frac{|25.9-25.6|}{25.6} \times 100 = 1.17\% \text{ error}$$

$\frac{(M-A)}{A} \times 100 = \%$ error

Actual = theo.

13. Find the density in g/cm^3 of a rectangular piece of granite which is 2.00cm x 2.0cm x 9.00cm and has a mass of 108g.

$$D = \frac{108g}{(2.00cm \times 2.0cm \times 9.00cm)} = 3.0\ g/cm^3$$

14. What amount of heat (in joules) would be produced by raising the temperature of 152 grams of water by 9°C?

Heat = (152g)(9°C)(4.184J/g°C) = 6000 Joules

4.184 Joules = 1 cal

15. Find the percent composition of iron and oxygen in ferric oxide.

Fe_2O_3 Fe (2x55.85) + O (3x16.00) = 159.70 g/mol

Fe = 111.70/159.70 x 100 = 69.94% O = 48.00/159.70 x 100 = 30.06%

Ion = an atom that has lost/gained e⁻ and now is charged.

Isotope = atoms of same element w/ diff # of neutrons (same # of protons) + diff mass #

Complete the table below.

	Element	Atomic Number	Mass Number (P+N)	Protons	Electrons (neutral P = e⁻; charge P − charge e⁻)	Neutrons (N # = A # − P #)
16.	Al	13	27	13	13	14
17.	Be	4	9	4	4	5
18.	Bi	83	209	83	83	126
19.	Ca	20	40	20	20	20
20.	C	6	13	6	6	7
21.	F	9	21	9	9	12
22.	P^{-3}	15	31	15	18	16
23.	Mg^{2+}	12	24	12	10	12

orbitals

s = 1

p = 6e⁻ = 3 orb.

d = 5 orb

f = 7 orb.

Fill-in the blanks on the following table.

	Energy Level	Sublevel	Number of Orbitals	Maximum Number of Electrons
24.	1	S	1	2
25.	2	s,p	4	8
26.	3	s,p,d	9	18
27.	4	s,p,d,f	16	32

ate > ite > poly ide N.M. (anion)

28. What elements are present in SF_6? ___sulfur_ and _fluorine_____ Sulfur hexafluoride
29. How many atoms are in the formula above? __7_____

Write the formulas for the following.

30. sodium chloride __NaCl_____
31. sodium sulfide _Na_2S_____
32. sodium phosphate _Na_3PO_4____
37. sodium nitrate _$NaNO_3$_____
38. sodium carbonate __Na_2CO_3__

Name the following compounds.

33. $KClO_3$ _potassium chlorate_____
34. $Cu(NO_3)_2$ _copper (II) nitrate ___(Cupric)____
35. KOH _potassium hydroxide_____
36. HBr (aq) _hydrobromic acid_____

$Cu(NO_2)_3$ typo

copper (III) nitrite