

Unit 2 Homework Problem Sets

Set #4: Compounds

40, 42, 46, 51, 59, 60 & 70 at the end of Chapter 2

Problem	Solution																									
40. Name the element represented by a. S b. Sc c. Se d. Si																										
42. Classify the elements in Question 40 as metals (main group, transition, or post-transition), nonmetals, or metalloids.																										
46. Which period of the periodic table a. has no metals? b. has no nonmetals? c. has one post-transition metal and two metalloids?																										
51. Complete the table given below. If necessary, use the periodic table.	<table><tr><th>Nuclear Symbol</th><th>Charge</th><th>Number of Protons</th><th>Number of Neutrons</th><th>Number of Electrons</th></tr><tr><td>_____</td><td>0</td><td>9</td><td>10</td><td>_____</td></tr><tr><td>³¹P</td><td>0</td><td>_____</td><td>16</td><td>_____</td></tr><tr><td>_____</td><td>+3</td><td>27</td><td>30</td><td>_____</td></tr><tr><td>_____</td><td>_____</td><td>16</td><td>16</td><td>18</td></tr></table>	Nuclear Symbol	Charge	Number of Protons	Number of Neutrons	Number of Electrons	_____	0	9	10	_____	³¹ P	0	_____	16	_____	_____	+3	27	30	_____	_____	_____	16	16	18
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59. Give the formulas of all the compounds containing no ions other than K ⁺ , Ca ²⁺ , Cl ⁻ and S ²⁻ .																										
60. Give the formulas of compounds in which a. the cation is Ba ²⁺ , the anion is I ⁻ or N ³⁻ . b. the anion is O ²⁻ , the cation is Fe ²⁺ or Fe ³⁺ .																										

70. Identify the following elements:

- a. A member of the same period as selenium but with two fewer protons than selenium.
- b. A transition metal in group 6, period 6.
- c. An alkaline earth with 38 protons.
- d. A post-transition metal in group 15.