

1210 Review Quiz

Name: _____

Question 1

Give the number of protons, electrons, and neutrons in each atom or ion

	e^{-}	p^{+}	n
^{27}Al			
$^{127}\text{I}^{-}$			
$^{40}\text{Ca}^{2+}$			

Question 2

A coffee-cup calorimeter contains 150.0 g of pure water. When 5.75 g of ammonium nitrate are added to the water, they dissolve and the solution temperature drops by 2.83 °C. What is the enthalpy of solvation for ammonium nitrate?

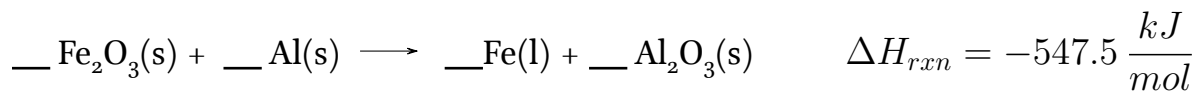
Question 3

Give the name or formula for each of the following compounds. For molecular compounds, draw the correct Lewis structure:

Name	Formula	Lewis Structure
Calcium Phosphate	_____	
_____	Mn_2S_3	
Dinitrogen Trioxide	_____	
_____	SF_6	
Nitric acid	_____	
_____	H_2SO_3	

Question 4

Consider the thermite reaction:



Note the very exothermic enthalpy of this reaction, which leads to the iron product being molten.

- First, balance this reaction
- If 2.5 g of Al react with 5.0 g of Fe_2O_3 , how many g of molten iron will be produced?

- How many J of heat will be released?

Question 5

Predict the products and write a balanced chemical equation for the reaction between sulfuric acid and aqueous calcium hydroxide.

When I Heard the Learn'd Astronomer

By Walt Whitman

When I heard the learn'd astronomer,
When the proofs, the figures, were ranged in columns before me,
When I was shown the charts and diagrams, to add, divide, and measure them,
When I sitting heard the astronomer where he lectured with much applause in the lecture-room,
How soon unaccountable I became tired and sick,
Till rising and gliding out I wander'd off by myself,
In the mystical moist night-air, and from time to time,
Look'd up in perfect silence at the stars.