

AP/IB Chem - Inquiry into Dimensional Analysis LATE WORK Assignment

Due Date: _____

Complete the following problem correctly to fulfill the late work/redo policy.

Lanthanum (**La**) metal forms a cation with a +3 charge. Consider the following observations about the chemistry of lanthanum:

- When lanthanum metal is exposed to oxygen, a white solid (Compound A) is formed.
- When lanthanum is added to water, gas bubbles are observed and a different white solid (Compound B) is formed.
- Both Compounds A and B dissolve in hydrochloric acid (HCl) to give a clear solution. When either solution is evaporated, a soluble white solid (Compound C) remains.
- If Compound C is dissolved in water and sulfuric acid is added, a white precipitate (Compound D) forms.

1) Propose the identities (names and formulas) for the Compounds A, B, C and D.

Compound A

Compound B

Compound C

Compound D

2) Write a balanced chemical equation (including states of matter) for all reactions described.