

**Chapter 9 Reference Sheet**  
**AP Chemistry**

**Name:** \_\_\_\_\_

**Hour:** \_\_\_\_\_

Electron-pair Geometry

Molecular Geometry

Hybrid Orbitals

Molecular polarity

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Multiple bonds and Resonance

## Sample Problems:

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### Reactions

*For each of the following reactions, write a balance equation for the reaction and answer the question about the reaction. Coefficients should be in terms of lowest whole numbers. Assume that solutions are aqueous unless otherwise indicated. Represent substances in solutions as ions if the substances are extensively ionized. Omit formulas for any ions or molecules that are unchanged by the reaction.*

1. Calcium Oxide powder is added to distilled water.
  - Describe as redox or metathesis and identify reaction type.
  
3. Liquid bromine is shaken with a 0.5M sodium iodine solution.
  - If 10.0 mL of each solution were added, what would be the concentration of the spectator anion in solution?
  
4. Solid Lead (II) carbonate is added to sulfuric acid.
  - Describe the geometry of sulfur in sulfuric acid.
  
6. Carbon dioxide gas is passed over hot, solid sodium oxide.
  - How does MO help to explain the bonding in carbon dioxide gas?