Quiz 12.1 – Classifying Solids

Name: Key

Question 1

Classify the following solids in as many ways as you can:

Quartz Crystal	Naphthalene	Aluminum Foil	Glass	Iron(III) Oxide
crystalline	crystalline	crystalline	amorphous	crystalline
covalent network	Molecular	Metallic	covalent network	ionic

Question 2

For each property or observation, write whether it indicates a solid is amorphous or crystalline

- The atomic-scale structure is chaotic and disordered amorphous
- The solid cleaves easily along flat planes crystalline
- The solid shows flat faces and sharp corners and edges at the macroscopic scale crystalline
- A sharp, consistent melting point is observed crystalline
- The solid grows soft and pliable over a temperature range before finally melting amorphous
- The atomic-scale structure shows a regular, repeating order crystalline

Question 3

What types of forces are present in each type of solid?

- Metallic Solids metallic bonds
- Ionic Solids ionic bonds
- Covalent-Network Solids covalent bonds
- Molecular Solids covalent bonds (internal)
  intermolecular forces (between molecules)