- 1. Which equation represents sublimation?
  - A)  $I_2(s) \rightarrow I_2(g)$
- B)  $I_2(s) \rightarrow I_2(\ell)$
- C)  $I_2(\ell) \rightarrow I_2(g)$
- D)  $I_2(\ell) \rightarrow I_2(s)$
- 2. In which process does a solid change directly into a vapor?
  - A) condensation
- B) sublimation
- C) deposition
- D) solidification
- 3. The halogen that undergoes sublimation at room temperature is
  - A) fluorine
- B) iodine
- C) bromine
- D) chlorine
- 4. A gas changes directly to a solid during
  - A) fusion
- B) deposition
- C) saponification
- D) decomposition
- 5. In which equation does the term "heat" represent heat of fusion?
  - A)  $NaCl(s) + heat \rightarrow NaCl(\ell)$
  - B)  $NaOH(aq) + HCl(aq) \rightarrow NaCl(aq) + H_2O(\ell) + heat$
  - C)  $H_2O(\ell)$  + heat  $\rightarrow H_2O(g)$
  - $D) \ H_2O(\ell) + HCl(g) \rightarrow H_3O^+(aq) + Cl^-(aq) + heat$

- 6. What occurs when a substance melts?
  - A) It changes from solid to liquid, and heat is absorbed.
  - B) It changes from solid to liquid, and heat is released.
  - C) It changes from liquid to solid, and heat is absorbed.
  - D) It changes from liquid to solid, and heat is released.
- 7. Which equation indicates the process of crystallization?
  - A)  $I_2(s) \rightarrow I_2(g)$
- B)  $I_2(\ell) \rightarrow I_2(g)$
- C)  $I_2(g) \rightarrow I_2(\ell)$
- D)  $I_2(aq) \rightarrow I_2(s)$
- 8. The heat of fusion is defined as the energy required at constant temperature to change 1 unit mass of a
  - A) gas to a liquid
- B) gas to a solid
- C) solid to a gas
- D) solid to a liquid