Name _____ Date _____ Class _____

REVIEW

6 SECTION 6.3

Acids, Bases, and pH

1. **Classify** each of the following substances as acidic, basic, or neutral:

   _____ **a.** a dilute solution of vinegar in water, which has more H_3O^+ ions than OH^- ions

   _____ **b.** soapy water with a lower H_3O^+ ion concentration than OH^- ion concentration

   _____ **c.** a solution with an equal concentration of hydronium ions and hydroxide ions

   _____ **d.** a bitter liquid, pH = 8

   _____ **e.** pure water, pH = 7

   _____ **f.** a tart solution of mixed citrus juices, pH < 7

2. **Write** the balanced chemical equation that describes the ionization of nitric acid, HNO_3, in water.

3. **Write** the balanced chemical equation that describes the dissociation of the strong base magnesium hydroxide, $Mg(OH)_2$, in water.

4. **Compare** the two kinds of bases, and give an example of each type.

   _____

   _____

   _____

5. **Compare** the acidity of three solutions having pH values of 2, 3, and 6.

   _____

   _____

   _____

6. **Write** the balanced equation for the reaction between water solutions of nitric acid, HNO_3, and magnesium hydroxide, $Mg(OH)_2$.