Name  Date

# Balancing and Writing Equations

**Task A:** Balance and classify the following chemical equations. Use working underneath to help you if needed.

1. 2 Na + 1 I2 ® 2 NaI

Synthesis

1. 2 KClO3 ® 2 KCl + 3 O2

Decomposition

1. 1 K3PO4 + 3 HCl ® 3 KCl + 1 H3PO4

Double replacement

1. 1 C3H8 + 5 O2 ® 3 CO2 + 4 H2O

Double replacement

**Task B:** Write and classify balanced chemical equation with state symbols for the following reactions. Use your solubility table to determine the states of the products for Q6, 7 & 8.

1. Gaseous nitrogen plus gaseous hydrogen produce gaseous ammonia (NH3). (Remember diatomic elements!)
2. Solid sodium oxide combines with water to form sodium hydroxide.
3. Aqueous solutions of sodium sulfate and calcium nitrate react to produce sodium nitrate and calcium sulfate.
4. Zinc reacts with aqueous iron (III) chloride yielding zinc chloride plus iron metal.