

# Energy and Change PreQuiz

## Answer Key

- (a) You can tell the reaction is exothermic because the energy term is written with the products, meaning heat is produced.

(b) The reaction would increase the temperature of the surroundings; for the surroundings,  $T_f > T_i$ .

(c) The energy released by forming all chemical bonds in the products is greater than the energy required to break all chemical bonds in the reactants.
- Thermal energy is the total kinetic energy of the particles in a substance. Heat is the transfer of thermal energy from a region of higher to lower temperature. Temperature is a measure of the average thermal energy of the particles in a substance.
- (a) 42.5 °C

(b) 1.34 J

(c) 15.2 °C