DUE TEST DAY.

1. People sometimes avoid using cooking pans that have metal handles because the handles often become hot because of the _____ of energy from the hot pan.

- A. convection
- B. conduction
- C. radiation
- D. insulation

2. The process of thermal conduction transfers heat from one place to another because

- A. hotter atoms or molecules move to cooler areas.
- B. hotter atoms or molecules increase the kinetic energy of cooler atoms or molecules.
- C. matter tends to reach thermal equilibrium.
- D. heat always moves from hotter to cooler objects.

3. Which of the following materials is the least likely to be used as a thermal insulator?

- A. brass
- B. plastic
- C. air
- D. wood

4. Energy can be transferred as heat rapidly through materials that are

- A. thermal insulators.
- B. thermal conductors.
- C. nonmetals.
- D. thermometers.

5. The process of convection transfers thermal energy only in

- A. gases.
- B. liquids.
- C. solids, liquids, and gases.
- D. liquids and gases.

6. Convection currents form because of differences in

- A. density.
- B. mass.
- C. specific heat.
- D. radiation.

7. Radiation is the transfer of energy by means of

- A. electromagnetic waves.
- B. flowing matter.
- C. the vibration of atoms and molecules.
- D. convection through space.

8. Which of the following types of clothing would be the best to use to prevent hypothermia?

- A. a loose-fitting, thin, cloth garment
- B. clothing that promotes evaporation of perspiration
- C. fleece-lined clothing
- D. a snug-fitting, thin, cloth garment

9. The specific heat capacity of a substance refers to the amount of energy needed to

- A. cause conduction.
- B. change the substance from a liquid to a gas.
- C. change the substance from a solid to a liquid.
- D. raise the temperature of the substance.

10. A large cooking pot contains 11.00 kg of water. It is to be heated from 20.0°C to 60.0°C. How much heat in joules must be added to the water to cause this temperature change? The specific heat capacity of water is 4186 J/kg·°C.

- A. 4.60×10^4 J
- B. 1.67×10^5 J
- C. 1.84×10^6 J
- D. 1.15×10^3 J

11. A 0.124 kg piece of metal heated to 92.0°C is placed into a beaker containing 0.390 kg of water at a temperature of 22.0°C. The final temperature at thermal equilibrium is 24.0°C . What is the specific heat capacity of the metal? Specific heat capacity of water is 4186 J/kg·°C.

- A. 1.23×10^2 J/kg·°C
- B. 3.87×10^2 J/kg·°C
- C. 3.12×10^3 J/kg·°C
- D. 9.85×10^2 J/kg·°C