**Heat Practice Problems**

**SHOW YOUR CALCULATIONS FOR EACH PROBLEM ON YOUR WIPE BOARD!**

1. The temperature of 567 g of water changes from 61°C to 67°C. If the heat capacity of water is 4.18 J/°C how much heat did the sample absorb? Is the water undergoing an endothermic or exothermic reaction? Why? Remember, think about the *surroundings*.

2. How much heat has to be removed from 240 g of water to change the temperature from 21°C to 11°C?  Is the water undergoing an endothermic or exothermic reaction? Why?

3. What is the specific heat of silicon if it takes 85.3 J of heat to raise 20 g of silicon from 81°C to 87°C?

4. Which of these equations is exothermic? Which of these equations is endothermic? Why?

N2 + 3H2 + heat → 2NH3

2H2 + O2 → 2H2O + heat

5. Which of the following are endothermic reactions? Which of the following are exothermic reactions? Why?

1. Benny cooks a porkchop.
2. When sulphuric acid and cold water are mixed, the mixture can reach the boiling point of water quickly.
3. When potassium nitrate is dissolved in water, the temperature of the water drops.
4. A firework flare burns out slowly.