**Thermo No Calc Warm Up**

1. How much energy, in kJ, is needed to heat 50.0 g H2O from 15.5°C to 25.5°C? (The specific heat of water is 4.2 J g-1 oC-1)

2. The overall reaction in a commercial heat pack can be represented as

4 Fe (s) + 3 O2 → 2 Fe2O3 (s) ΔH = - 1652 kJ/mol

1. How much heat is released when 5.56 g of iron reacts with excess oxygen?
2. How many grams of iron reacted if 413kJ of heat were released?

q = mCsΔT qrxn = -qsoln specific heat of water (Cs) = 4.2 J/g°C

3. How much energy, in J, is needed to heat 90mol H2O from 15.0°C to 45.0°C?