Heat Problems – set one

Relevant Information

Cp of liquid water: 1 cal/gC

Cp of ice: 0.5 cal/gC

Cp of steam: 0.5 cal/gC

Heat of fusion: 80 cal/g

Heat of vaporization: 540 cal/g

1. How much heat is required to raise the temp of a 10 gram piece of ice from -15 C to 125 C?
Ans: 7400 cal

2. What quantity of heat is released when 25 grams of steam cool to -25 C from 125C?
Ans: 18,625 cal

3. What quantity of heat is needed to raise 25 g of water from 25 C to 125 C?
Ans: 15687.5 cal

4 What quantity of heat is released as 500 g of water cool to -15 C from 25 C?
Ans: 56,250 cal

5. How much heat is required to raise the temp of a 10 gram piece of ice from 95 C to 125 C?
Ans: 5575 cal

6. What quantity of heat is released when 25 grams of steam cool to -20 C from 110 C?
Ans: 18,375 cal

7. What quantity of heat is needed to raise 25 g of water from 25 C to 75 C?
Ans: 1250 cal

8 What quantity of heat is released as 500 g of water cool to 45 C from 125 C?
Ans: 303,750 cal