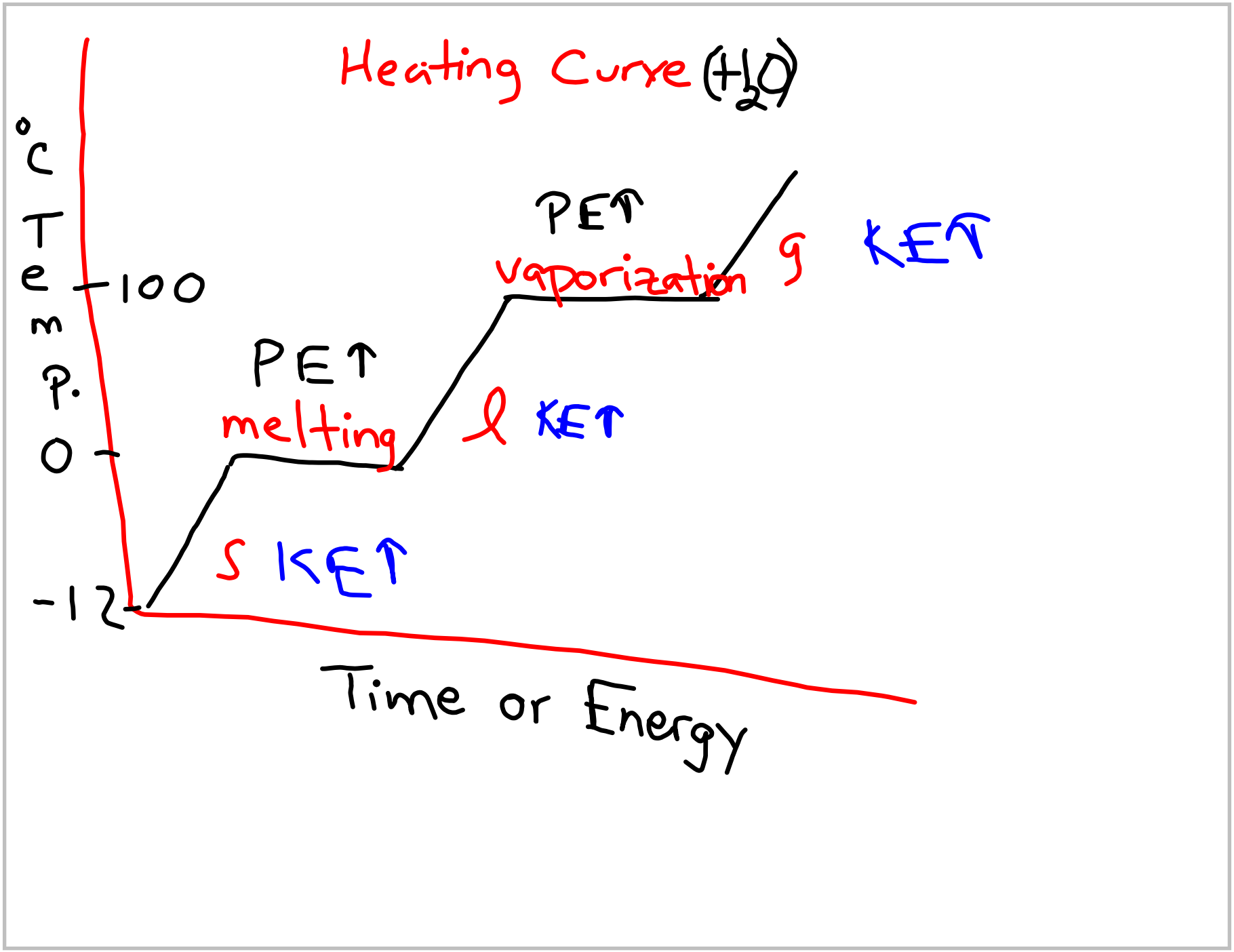
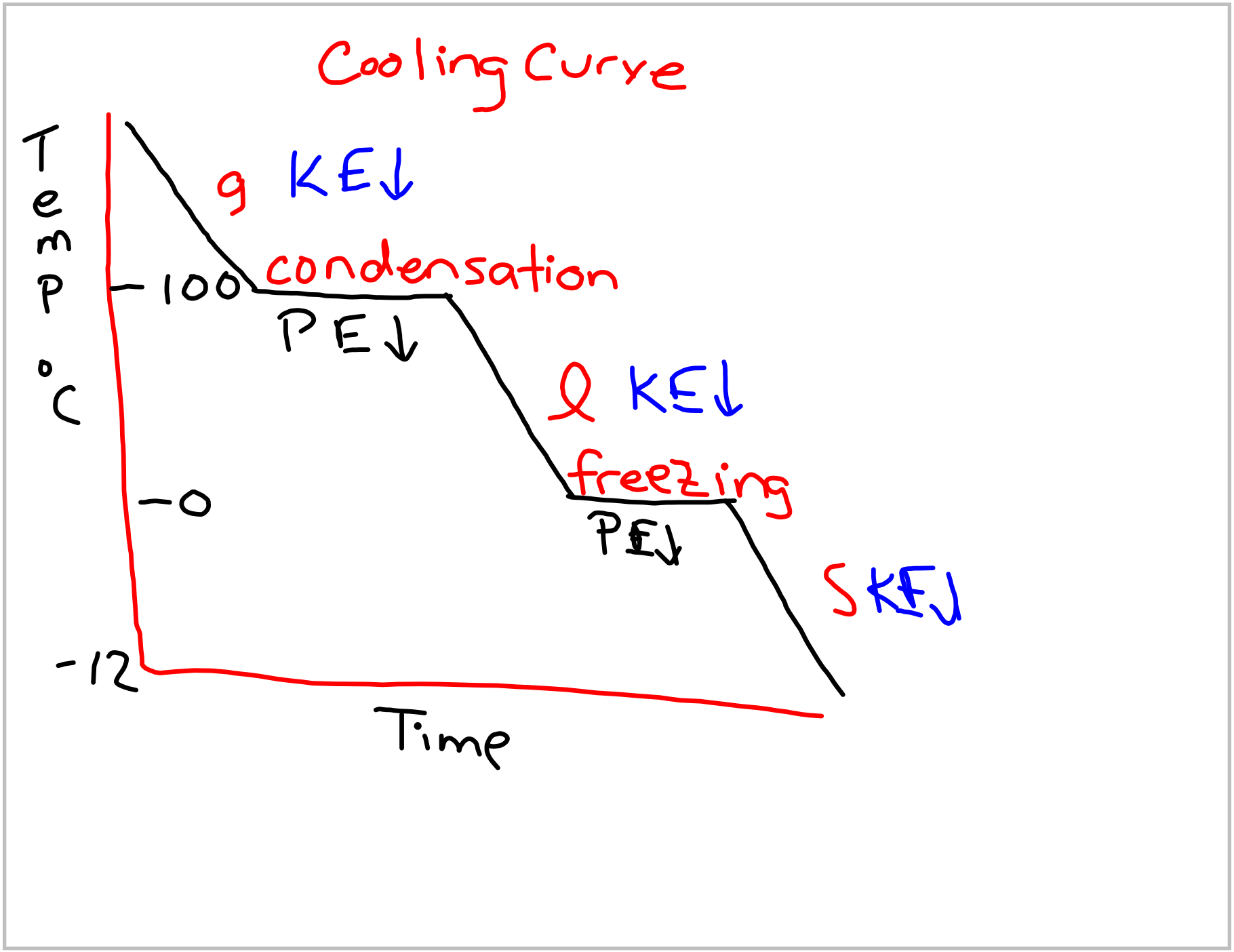

Heating Curve (H_2O)
°C
Temp.
100
0
-12
PE↑
vaporization
g KE↑
PE↑
melting
l KE↑
s KE↑
Time or Energy

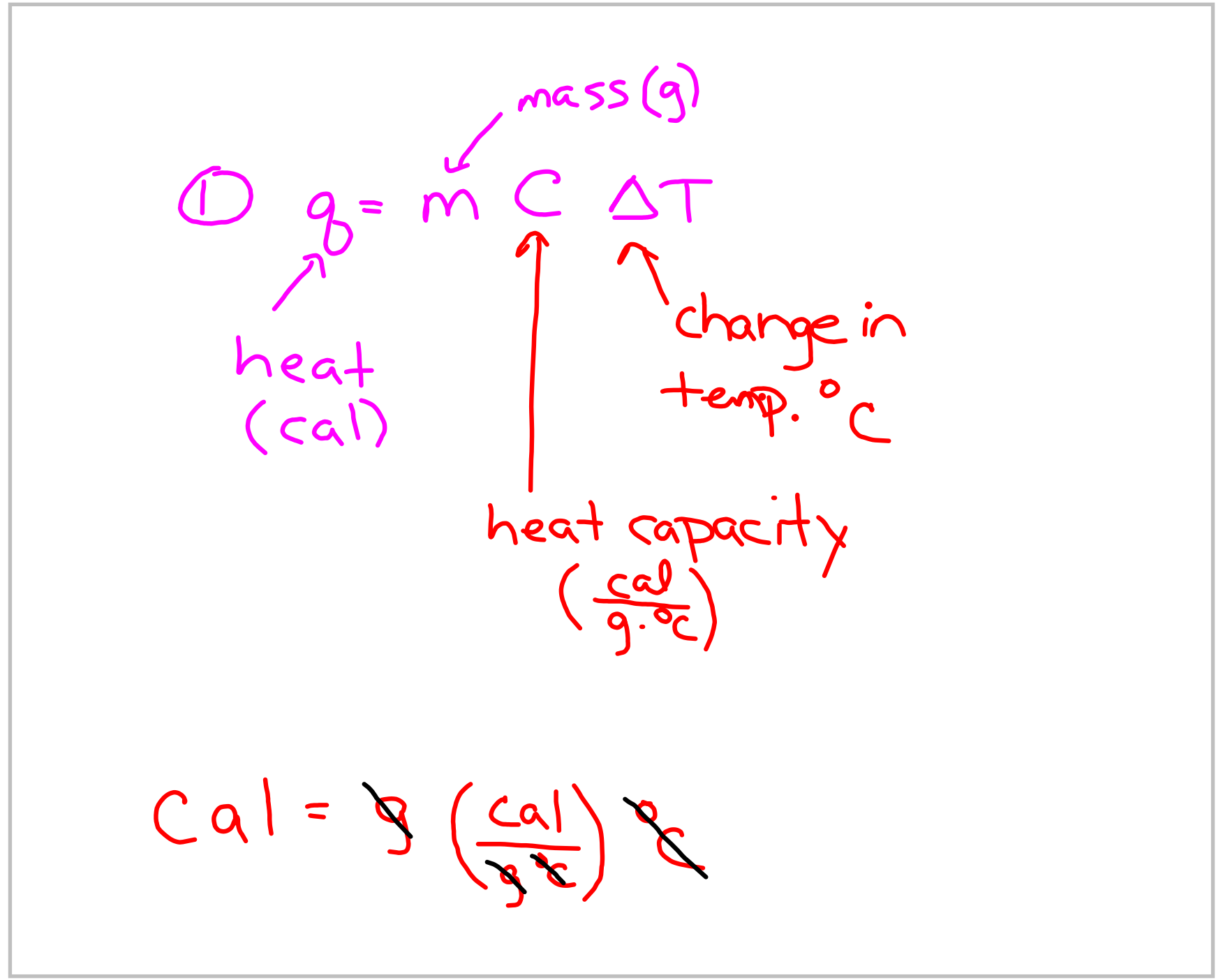

Cooling Curve
Temp °C
g KE↓
condensation
100
PE↓
l KE↓
freezing
0
PE↓
S KE↓
-12
Time

temp. stays the same
(storage)

PE = Potential Energy

KE = Kenetic Energy
(motion)
temperature changes

Vaporization = boiling
evaporating



$$Cal = g\left(\frac{cal}{g\,^{\circ}C}\right)\,^{\circ}C$$

2. $q = m H_f$

mass (g)

heat (cal)

heat of fusion

freezing

melting $0^\circ C$

$\frac{cal}{g}$

$cal = g\left(\frac{cal}{g}\right)$

3.

$q = m H_v$

mass (g)

100°C

heat (cal)

heat of vapor.

boiling

condensation

$cal = \cancel{g}\left(\frac{cal}{\cancel{g}}\right)$

2. $q = m H_f$

$= (250)(80.0)$

20000 cal

2.0×10^4 cal

3.

$$q = m H_x$$

$$= (4.5 \times 10^5)(540.0)$$

$$243000000 \text{ cal}$$

$$2.4 \times 10^8 \text{ cal}$$

1) $q = mC\Delta T$

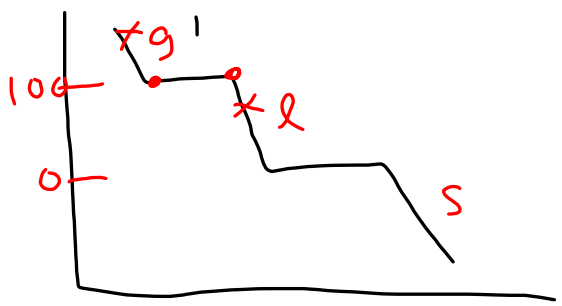
$= (25.0)(.1566)(63.3)$

247.8195 cal

248 cal

$$\begin{array}{r} 88.3 \\ -\ 25.0 \\ \hline 63.3 \end{array}$$

9.



1. $q = mC\Delta T$

$= 250(0.48)(39)$

4680 cal

2. $q = mH_v$

$= (250)(540.0)$

3 = $q = mC\Delta T$

$(250)(1)(25)$

4680

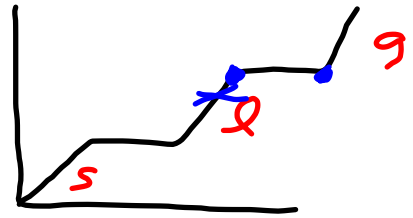
135000

6250

145,930 cal

1.5×10^5 cal

⑧



$$\begin{array}{r} 100^\circ C \\ 85^\circ C \\ \hline 15^\circ C \end{array}$$

1. $q = m C \Delta T$

$= (4.5 \times 10^6)(1)(15)$

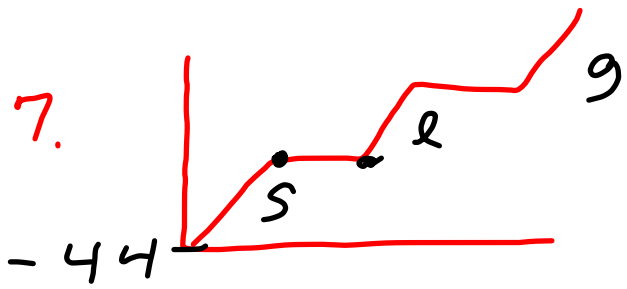
2. $q = m H_v$

$= (4.5 \times 10^6)(540.0)$

$$\begin{array}{r} 67500000 \\ 2430000000 \\ \hline 2497500000 \text{ cal} \end{array}$$

2.5×10^9 cal

7.



1. $q = mC\Delta T$

$= (28.9)(0.50)(44)$

2. $q = mH_f$

$= (28.9)(80.0)$

635.8

2312

2947.8 cal

2900 cal

2.9×10^3 cal

Heat Capacity Lab

1. $q = m H_f$

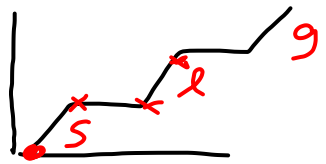
$= (450)(80.0)$

$36000\ cal$

$$\frac{36000\ cal \times 4.18\ J}{1\ cal} =$$

$150480\ J$

$1.5 \times 10^5\ J$

4. 

$q = mC\Delta T$

$(130)(.50)(15)$

$q = mH_f$

$(130)(80.0)$

$q = mC\Delta T$

$(130)(1)(87.6)$

975

10400

11388

22763 cal

2.3×10^4 cal