a)

$$dS = \frac{1}{T} dQ = \frac{c_p m}{T} dT \qquad \Delta S = 4.18 \cdot 10^3 \int_{273,15}^{353,15} \frac{1}{T} dT = 778,4 \ J \ K^{-1}$$

b)

$$dS = \frac{1}{T} dQ = \frac{1}{273.15} dQ = \frac{1}{273.15} m l$$

$$\Delta S = \frac{1}{273.15} \cdot 1 \cdot 3.34 \cdot 10^5 = 1222 \cdot J \ K^{-1}$$

c)

$$dS = \frac{dQ}{T} = \frac{1}{373.15} m (-l)$$

watch out: $dQ = m l$ for going to higher phase

$dQ = m \times -l$ for going to lower phase

$$\Delta S = \frac{1}{373.15} \times 1 \times - 2.2 \, 6 \times 10^6 = -6056.5 \ J \ K^{-1}$$