3 **(a)** Define *specific latent heat of fusion*.

.....

.....

.....[2]

(b) A mass of 24 g of ice at –15 °C is taken from a freezer and placed in a beaker containing 200 g of water at 28 °C. Data for ice and for water are given in Fig. 3.1.

	specific heat capacity / J kg^{-1} K^{-1}	specific latent heat of fusion / J kg^{-1}
ice	2.1×10^3	3.3×10^5
water	4.2×10^3	–

Fig. 3.1

(i) Calculate the quantity of thermal energy required to convert the ice at –15 °C to water at 0 °C.

energy = ... J [3]

(ii) Assuming that the beaker has negligible mass, calculate the final temperature of the water in the beaker.

temperature = ... °C [3]