

Question Number	Answer	Mark
<b>12</b>	Use of $\Delta E = mc\Delta\theta$ (1)	<b>4</b>
	Use of $P = \frac{\Delta E}{\Delta t}$ (1)	
	Use of $\Delta E = mL$ (1)	
	$m = 0.189 \text{ kg}$ (1)	
	<u>Example of calculation</u>	
	$P = \frac{0.855 \text{ kg} \times 4190 \text{ J kg}^{-1} \text{ K}^{-1} \times (100 - 21.5) \text{ K}}{115 \text{ s}} = 2.45 \times 10^3 \text{ W}$	
	$2.45 \times 10^3 \text{ W} \times 175 \text{ s} = m \times 2.26 \times 10^6 \text{ J kg}^{-1}$	
	$\therefore m = \frac{2.45 \times 10^3 \text{ W} \times 175 \text{ s}}{2.26 \times 10^6 \text{ J kg}^{-1}} = 0.189 \text{ kg}$	
	<b>Total for question 12</b>	<b>4</b>