

- 15** A 2.0 kg metal block initially at 450 K is placed in a container containing 10 kg of water at 300 K. The specific heat capacities of water and the metal block are  $4200 \text{ J K}^{-1} \text{ kg}^{-1}$  and  $2500 \text{ J K}^{-1} \text{ kg}^{-1}$  respectively. The heat capacity of the container is negligible.

What is the temperature when the block, water and container reach thermal equilibrium?

- A** 316 K                      **B** 330 K                      **C** 375 K                      **D** 750 K