

- 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