

- 12** A metal block X of mass m , specific heat capacity c and temperature $80\text{ }^{\circ}\text{C}$ is placed in good thermal contact with a second metal block Y of mass $2m$, specific heat capacity $2c$ and temperature $30\text{ }^{\circ}\text{C}$.

Assuming there is no energy loss to the surroundings, what will be the final temperature of both blocks?

- A** $30\text{ }^{\circ}\text{C}$ **B** $40\text{ }^{\circ}\text{C}$ **C** $55\text{ }^{\circ}\text{C}$ **D** $70\text{ }^{\circ}\text{C}$