

- 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**  $70\text{ }^{\circ}\text{C}$