2 **(a)** Define specific heat capacity.

.....

.....

..... [2]

(b) Two solid blocks X and Y are made from different metals. The blocks have different initial temperatures. Block Y is initially at room temperature.

The blocks are placed in direct thermal contact with each other at time $t = 0$. Fig. 2.1 shows the variation with t of the temperatures of the two blocks.

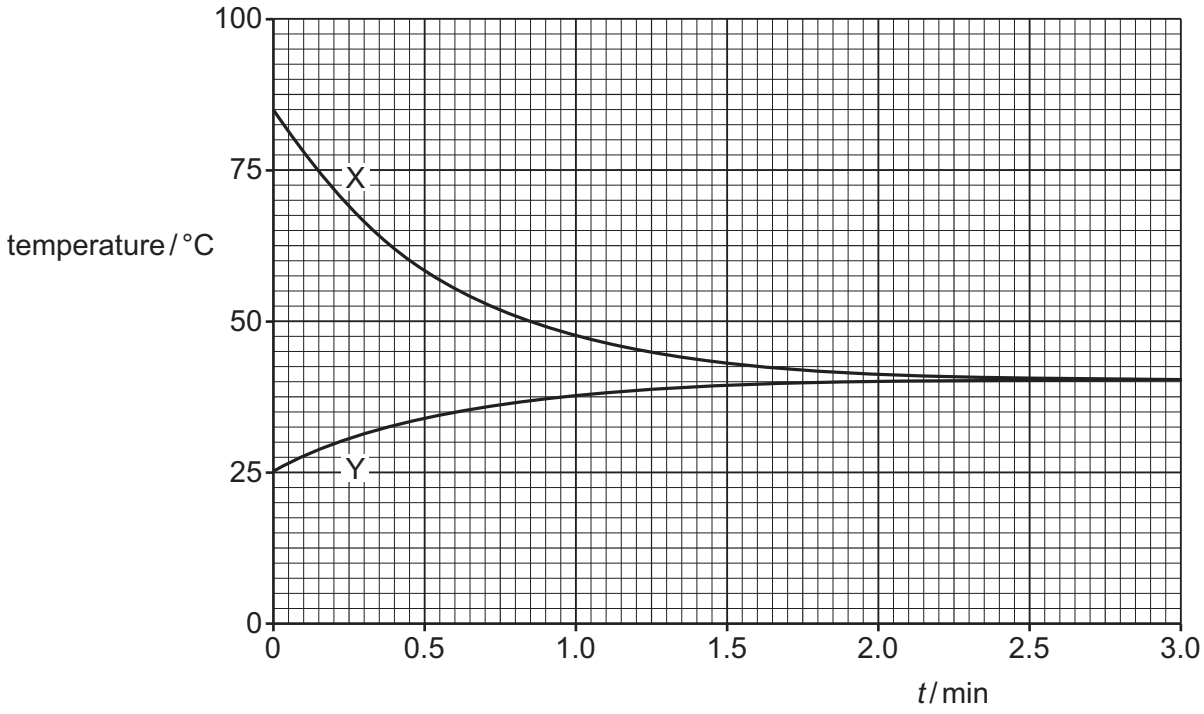

Fig. 2.1

(i) State **three** conclusions that may be drawn from Fig. 2.1. The conclusions may be qualitative or quantitative.

1 .....

.....

2 .....

.....

3 .....

.....

[3]

(ii) The ratio $\frac{\text{mass of block Y}}{\text{mass of block X}}$ is equal to 1.3.

The metal in block Y has a specific heat capacity of $901\,J\,kg^{-1}\,K^{-1}$.

Determine the specific heat capacity of the metal in block X.

specific heat capacity = ... $J\,kg^{-1}\,K^{-1}$ [3]

[Total: 8]