3 **(a)** Explain what is meant by the statement that two bodies are in *thermal equilibrium*.

....

....

.... [1]

(b) Suggest suitable types of thermometer, one in each case, to measure

    (i) the temperature of the flame of a Bunsen burner,

    .... [1]

    (ii) the change in temperature of a small crystal when it is exposed to a pulse of ultrasound energy.

    .... [1]

(c) Some water is heated so that its temperature changes from 26.5 °C to a final temperature of 38.0 °C.

State, to an appropriate number of decimal places,

    (i) the change in temperature in kelvin,

                                   change = ... K [1]

    (ii) the final temperature in kelvin.

                        final temperature = ... K [1]

[Total: 5]