

SECTION B**Answer ALL questions in the spaces provided.**

- 11** The water in a swimming pool at the Olympic Games should be at a temperature of 28.0°C .

- (a) A pool contains 2750 m^3 of water at 16.5°C .

Calculate the increase in internal energy ΔE of the water when it is heated to 28.0°C .

density of water = 998 kg m^{-3}

specific heat capacity of water = $4190\text{ J kg}^{-1}\text{ K}^{-1}$

(3)

$\Delta E =$

- (b) A heater is used to increase the temperature of the water.

State why the amount of energy supplied by the heater will be different from the value of ΔE calculated in (a).

(1)

(Total for Question 11 = 4 marks)