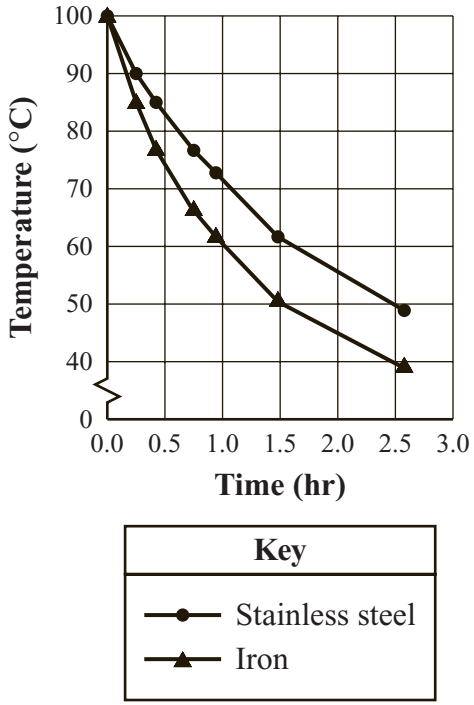
44 A student was investigating cooling times for two pots made of different materials. One pot was stainless steel and the other pot was iron. The pots were placed on a table in a 25°C room. The pots were roughly the same size and shape, and contained the same amount of water. The pots and water were originally at 100°C. The student recorded the temperature of the water in each pot over time. The graph below shows the results.



a. Determine the amount of time it took the water in the iron pot to cool from 100°C to 60°C.

b. Based on the graph, which pot, the iron pot or the stainless steel pot, was a better conductor of thermal energy? Explain your answer.

c. Identify **two** methods of heat transfer that occurred as the water in the pots cooled, **and** describe how the transfer of heat occurred for **each** method.

d. Describe when the pots no longer experienced a net loss of thermal energy.