Reading Two Heating Curves That Cross

Scoring guide · one credit per question · review written work against each rubric

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Question 1

Choice (3)

Both curves show 30 °C at 6 min.

Question 2

A rises 12 °C in 6 min, or 2 °C/min. B rises 6 °C in 6 min, or 1 °C/min.

Question 3

Each receives 60 J in six minutes. A warms by 12 °C and B warms by 6 °C, so B needs twice as much energy for each degree of warming. The heat capacities are 5 J/°C for A and 10 J/°C for B.

Question 4

B requires 10 J per 1 °C of warming. To warm 2 °C each minute, B needs 20 J/min. Doubling the original input rate from 10 to 20 J/min also gives the result.