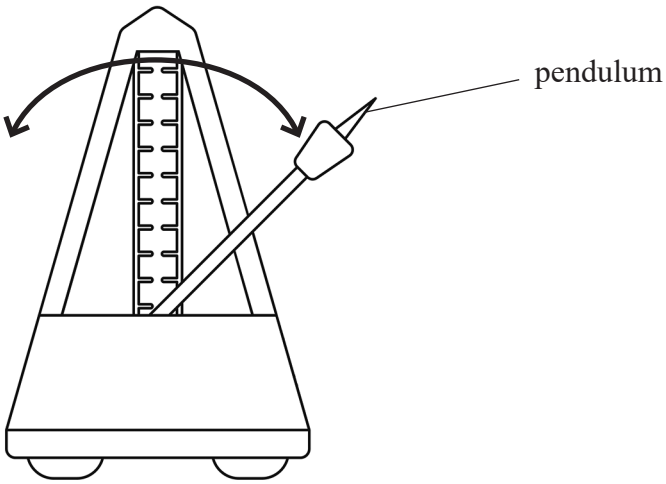
4 The diagram shows a metronome, which includes an inverted pendulum, used by musicians to set a tempo. The pendulum oscillates with simple harmonic motion and makes a loud click at regular intervals.



(Source: Getty Images)

A faulty metronome stopped making a clicking noise. A student tried to check the accuracy of the period T of the metronome, using a stopwatch. The student timed the pendulum as it moved from one extreme of the oscillation to the other.

Explain how the procedure used by the student to determine T could have been improved.

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(Total for Question 4 = 5 marks)

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