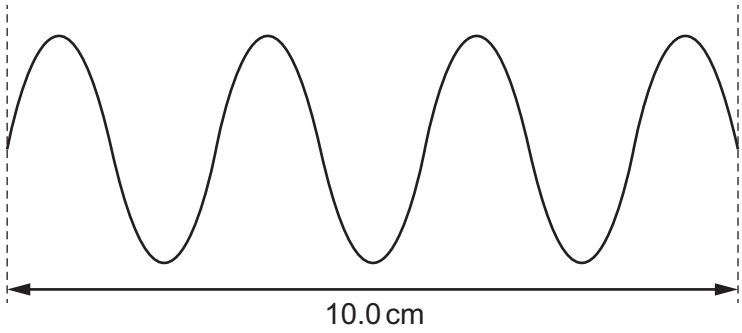
4 A student uses a cathode-ray oscilloscope (CRO) to measure the period of a signal. She sets the time-base of the CRO to $5\,\text{ms}\,\text{cm}^{-1}$ and observes the trace illustrated below. The trace has a length of 10.0 cm.



What is the period of the signal?

A $7.1 \times 10^{-6}\,\text{s}$ **B** $1.4 \times 10^{-5}\,\text{s}$ **C** $7.1 \times 10^{-3}\,\text{s}$ **D** $1.4 \times 10^{-2}\,\text{s}$

5 The diameter of a spherical golf ball is measured with calipers and found to be $(4.11 \pm 0.01)\,\text{cm}$.

The volume of a sphere is $V = \frac{1}{6}\pi d^3$, where d is the diameter of the sphere.

What is the volume of the golf ball?

A $(36.35 \pm 0.01)\,\text{cm}^3$

B $(36.35 \pm 0.03)\,\text{cm}^3$

C $(36.35 \pm 0.09)\,\text{cm}^3$

D $(36.4 \pm 0.3)\,\text{cm}^3$