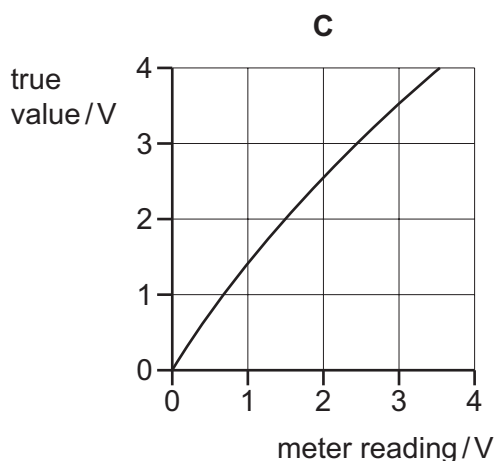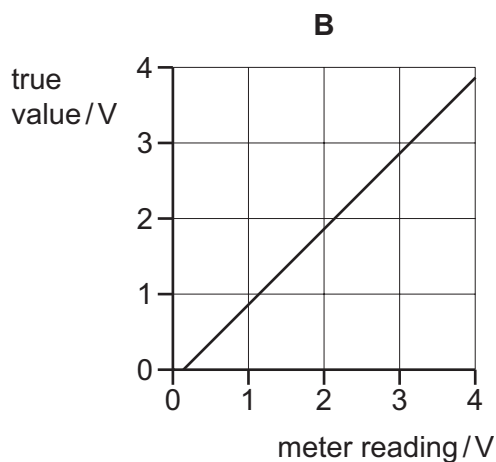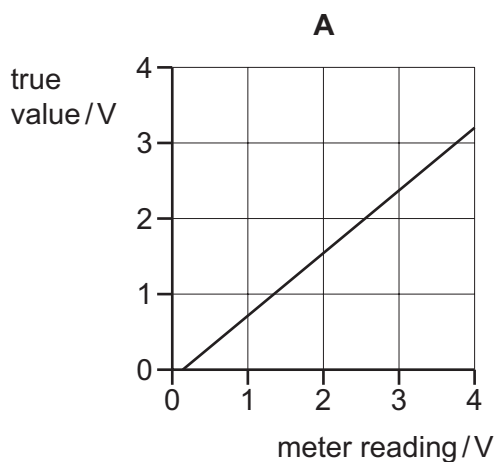**4** A voltmeter gives readings that are larger than the true values and has a systematic error that varies with voltage.

Which graph shows the calibration curve for the voltmeter?

A

true value/V (vertical axis, 0 to 4)
meter reading/V (horizontal axis, 0 to 4)

B

true value/V (vertical axis, 0 to 4)
meter reading/V (horizontal axis, 0 to 4)

C

true value/V (vertical axis, 0 to 4)
meter reading/V (horizontal axis, 0 to 4)

D

true value/V (vertical axis, 0 to 4)
meter reading/V (horizontal axis, 0 to 4)
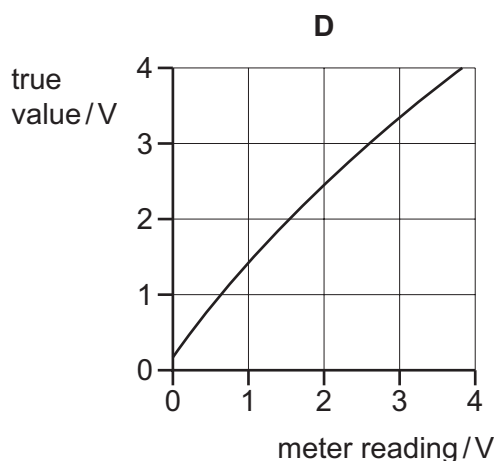
5 A student uses a cathode-ray oscilloscope (c.r.o.) to measure the period of a signal. She sets the time-base of the c.r.o. to $5\,\text{ms}\,\text{cm}^{-1}$ and observes the trace illustrated below. The trace has a length of 10.0 cm.

10.0 cm
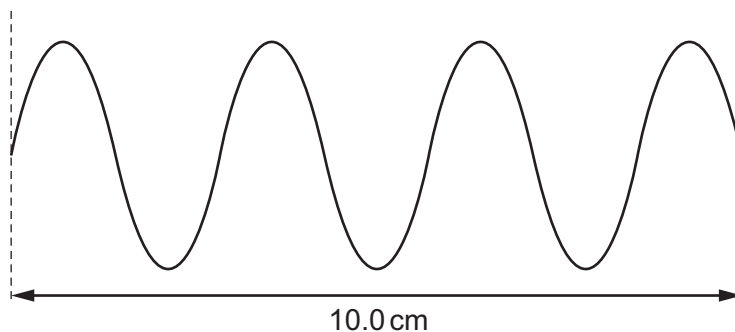
What is the period of the signal?

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** $1.4 \times 10^{-2}\,\text{s}$