1 The table shows some measurable quantities.

Which row gives the correct order of magnitude of the measurable quantity in the stated unit?
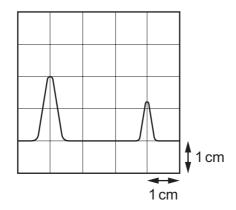
	measurable quantity	order of magnitude	unit
A	mass of a coin	10^{-4}	kg
B	thickness of a sheet of paper	10^{-2}	m
C	weight of an apple	10^{0}	N
D	temperature of a person's body	10^{1}	K

2 A byte (b) comprises 8 bits.

How many bits are there in 1 terabyte (1Tb)?

A 1×10^{9} **B** 8×10^{9} **C** 1×10^{12} **D** 8×10^{12}

3 Which pair of quantities contains both a scalar **and** a vector?

A acceleration and momentum

B charge and resistance

C kinetic energy and mass

D temperature and velocity

4 A transmitter emits a pulse of electromagnetic waves towards a reflector. The pulse is reflected and returns to the transmitter.

A detector is located at the transmitter. The emitted pulse and the reflected pulse are displayed on a cathode-ray oscilloscope (CRO) as shown.

1 cm

1 cm

The pulse takes $6.3\,\mu s$ to travel from the transmitter to the reflector.

What is the time-base setting of the CRO?

A $2.1\,\mu s\,cm^{-1}$ **B** $3.2\,\mu s\,cm^{-1}$ **C** $4.2\,\mu s\,cm^{-1}$ **D** $6.3\,\mu s\,cm^{-1}$