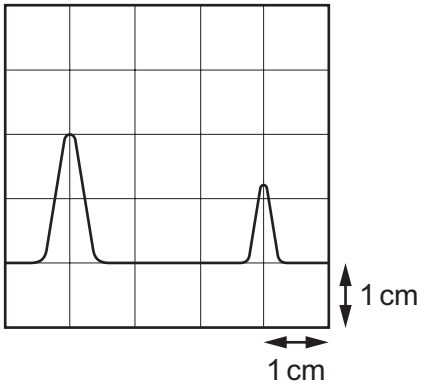
5 A transmitter emits a pulse of electromagnetic waves towards a reflector. The pulse is reflected and returns to the transmitter.

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



The pulse takes 6.3 μs to travel from the transmitter to the reflector.

What is the time-base setting of the c.r.o.?

A 2.1 μs cm^{-1} **B** 3.2 μs cm^{-1} **C** 4.2 μs cm^{-1} **D** 6.3 μs cm^{-1}

6 A hot-air balloon is moving vertically upwards with a constant speed of 3.00 m s^{-1}. A sandbag is dropped from the balloon. It takes 5.00 s for the sandbag to fall to the ground.

What was the height of the balloon when the sandbag was released?

A 29 m **B** 108 m **C** 123 m **D** 138 m