2 The signal from a microwave detector is recorded on a cathode-ray oscilloscope (c.r.o.), as shown in Fig. 2.1.

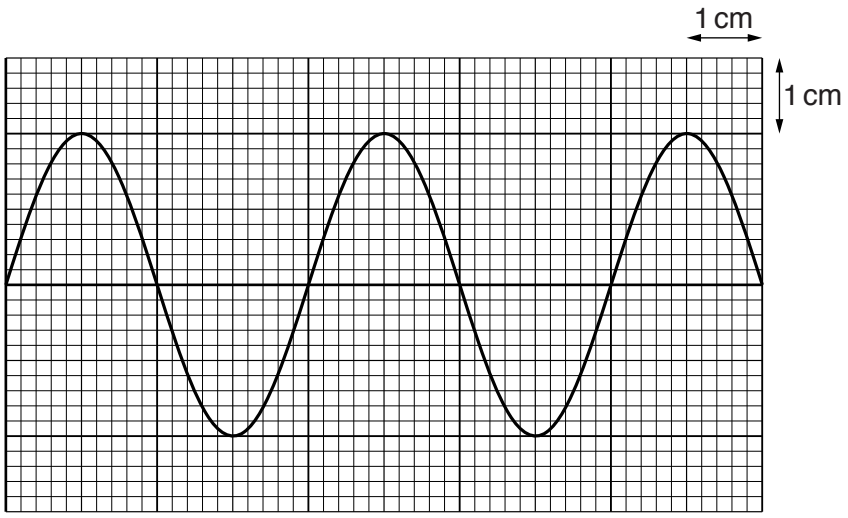

Fig. 2.1

The time-base setting on the c.r.o. is $50\,\text{ps}\,\text{cm}^{-1}$.

(a) Using Fig. 2.1, determine the wavelength of the microwaves.

wavelength = ... m [4]

(b) The signal from a radio wave detector is recorded on the same c.r.o.
The wavelength of the radio waves is $1.5 \times 10^3\,\text{m}$.

Determine the time-base setting required to display the same number of oscillations on the c.r.o. as shown in Fig. 2.1.

time-base setting = ... unit..... [2]

[Turn over