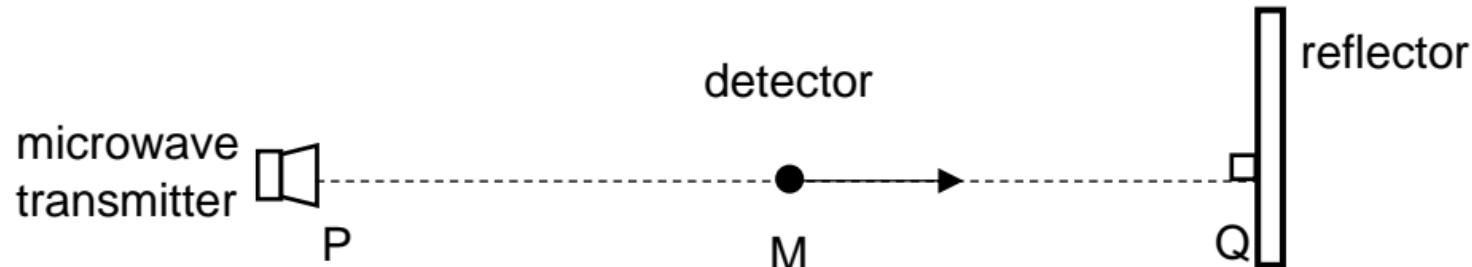


- 18 A microwave transmitter emits waves that are incident normally on a reflector. A microwave detector is initially at the point M where it detects a maximum intensity. As it moves along the line PQ towards Q, the detector picks up a series of maximum and minimum intensity signals.



The detector moves with a speed of 2.0 m s^{-1} and the frequency at which maximum intensity signals are picked up is 10 Hz.

What is the distance moved by the detector from its initial position at M to a position where it detects the second minimum intensity signal?

A 0.10 m

B 0.20 m

C 0.30 m

D 0.40 m

[Turn over