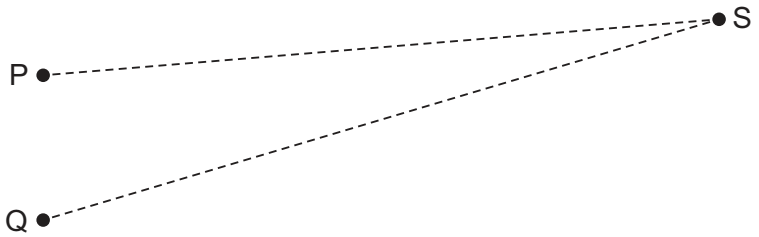
29 Two sources of microwaves P and Q produce coherent waves with a phase difference of 180°. The waves have the same wavelength λ.



At the point S there is a minimum in the interference pattern produced by waves from the two sources. The distance (QS – PS) is called the path difference.

In the expressions shown, *n* is an integer.

Which expression represents the path difference?

A $n\lambda$ **B** $\frac{1}{2}n\lambda$ **C** $(n + \frac{1}{2})\lambda$ **D** $(2n + \frac{1}{2})\lambda$