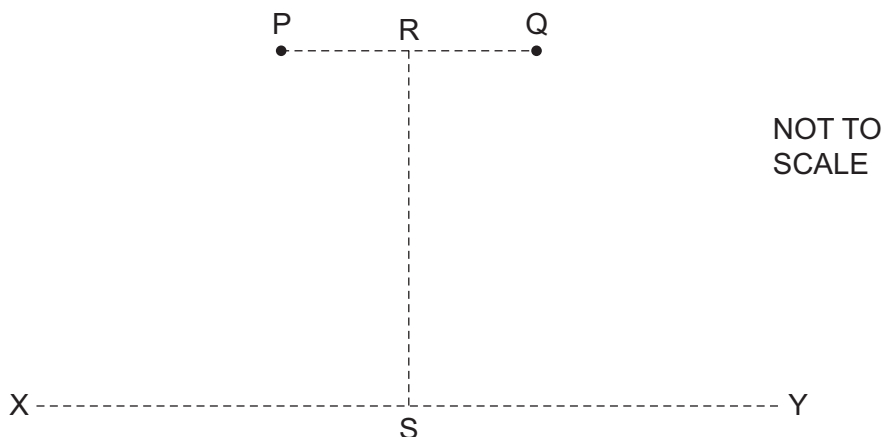


- 30 Coherent waves are produced at P and at Q and travel outwards in all directions. The line RS is halfway between P and Q and perpendicular to the line joining P and Q. The distance RS is much greater than the distance PQ.



Along which line, or lines, is an interference pattern observed?

- A both RS and XY
 - B RS only
 - C XY only
 - D neither RS nor XY
- 31 Two horizontal parallel plate conductors are separated by a distance of 5.0 mm in air. The lower plate is earthed and the potential of the upper plate is +50 V.

What is the electric field strength E at a point midway between the plates?

- A $1.0 \times 10^4 \text{ V m}^{-1}$ downwards
- B $1.0 \times 10^4 \text{ V m}^{-1}$ upwards
- C $2.0 \times 10^4 \text{ V m}^{-1}$ downwards
- D $2.0 \times 10^4 \text{ V m}^{-1}$ upwards

Space for working