

A level Physics B

H557/01 Fundamentals of physics

Question Set 31

1

Fig. 1 (not to scale) shows a double slit illuminated by laser light.

The positions of the central maximum and the first minimum for the waves incident on a distant screen are shown.

The phasors representing these waves are given in the first and fourth rows of the table below. Positions **A** and **B** divide the distance between the central maximum and the first minimum into equal thirds.

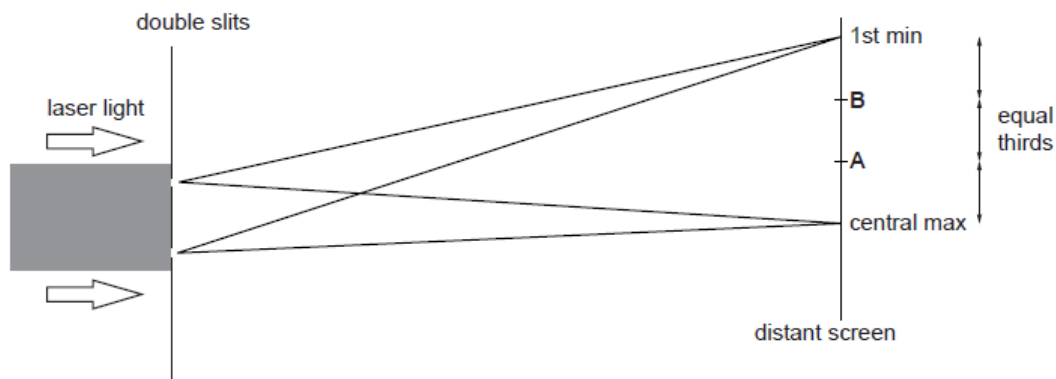


Fig. 1 (not to scale)

Position	Phasors	Resultant phasor	Relative intensity
1st min	$\uparrow + \downarrow =$	0	0
B		1	1
A			
central max	$\begin{matrix} \uparrow & \uparrow \\ + & = \\ \uparrow & \uparrow \end{matrix}$	2	4

Complete the table above for positions **A** and **B**, showing the phasors, their addition and the value of the relative intensity at the distant screen.

[3]

Total Marks for Question Set: 3

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