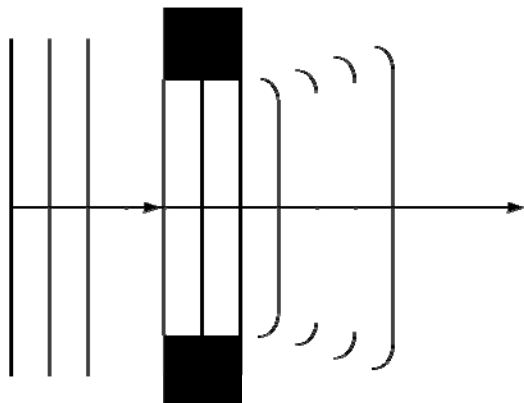


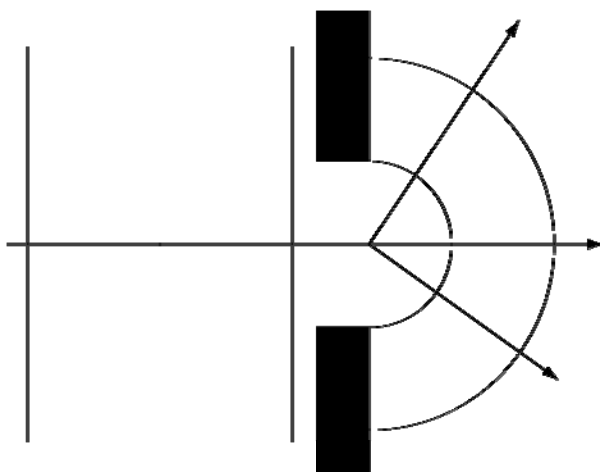
**Mark scheme for Support Worksheet – Topic 4, Worksheet 3**

1 a



[2]

b



[2]

- 2 When two similar waves arrive at the same point in space; the resulting amplitude may be large or small; depending on the phase difference between the waves. [2]
- 3 The path difference is  $3.52 - 3.12 = 0.40$  m ; this is an integral multiple of the wavelength and so constructive interference will take place. [2]
- 4 The path difference is  $3.40 - 3.10 = 0.30$  m ; this is a half integral multiple of the wavelength and so destructive interference will take place. [2]
- 5 A phase difference between them of  $\pi$  corresponds to a path difference of half a wavelength and so destructive interference will take place. [1]
- 6 a Approximately 5.6 cm. [1]
- b 0.75 s/1.75 s/2.75 s [1]