

27 What do **not** travel at the speed of light in a vacuum?

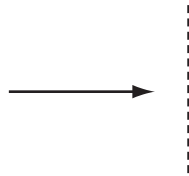
- A electrons
- B microwaves
- C radio waves
- D X-rays

28 A musical organ produces notes by blowing air into a set of pipes that are open at one end and closed at the other.

What is the lowest frequency of sound produced by a pipe of length 10 m?  
(The speed of sound in the pipe is  $320 \text{ m s}^{-1}$ .)

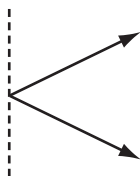
- A 4 Hz                      B 8 Hz                      C 16 Hz                      D 32 Hz

29 Monochromatic light is directed at a diffraction grating as shown.

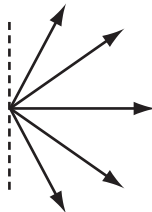


Which diagram shows all the possible directions of the light, after passing through the grating, that give maximum intensity?

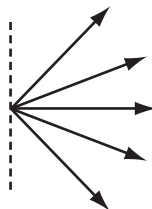
A



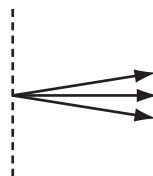
B



C



D



Space for working