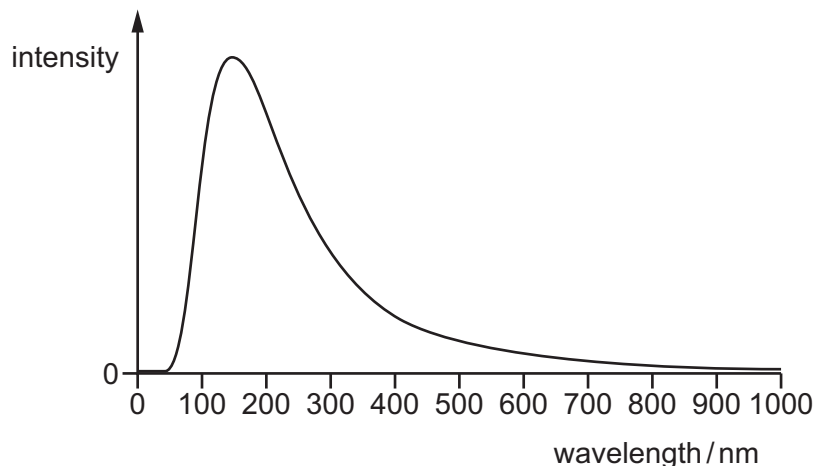


- 24** A source of sound of frequency 1000 Hz directly approaches a stationary observer. The observer measures the frequency of the received sound to be 1500 Hz. The speed of sound in still air is 330 ms^{-1} .

What is the speed of the source of sound?

- A** 110 ms^{-1} **B** 165 ms^{-1} **C** 220 ms^{-1} **D** 330 ms^{-1}

- 25** The graph shows how the intensity of electromagnetic radiation emitted from a distant star varies with wavelength.



In which region of the electromagnetic spectrum is the radiation of greatest intensity?

- A** infrared
B visible light
C ultraviolet
D X-ray
- 26** Which statement concerning a stationary wave is correct?
- A** All the particles between two adjacent nodes oscillate in phase.
B The amplitude of the stationary wave is equal to the amplitude of one of the waves creating it.
C The wavelength of the stationary wave is equal to the separation of two adjacent nodes.
D There is no displacement of a particle at an antinode at any time.
- 27** Which waves would best demonstrate diffraction through a doorway?
- A** sound waves
B ultraviolet waves
C visible light waves
D X-rays