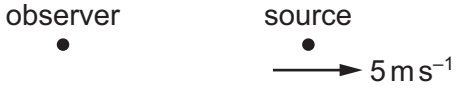
**25** A source of sound waves is travelling as shown.

In which situation would the stationary observer detect the largest decrease in the observed frequency?

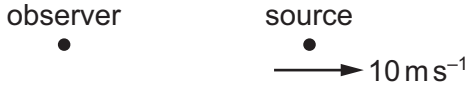
**A**


**B**


**C**




**D**




**26** M and N are two electromagnetic waves.

The ratio

$$\frac{\text{wavelength of M}}{\text{wavelength of N}} = 10^5.$$

What could M and N be?

| | M | N |
|---|---|---|
| **A** | microwaves | visible light |
| **B** | microwaves | $\gamma$-rays |
| **C** | $\gamma$-rays | microwaves |
| **D** | visible light | microwaves |

**27** A progressive wave is incident normally on a flat reflector. The reflected wave overlaps with the incident wave and a stationary wave is formed.

At an antinode, what could be the ratio $\frac{\text{displacement of the incident wave}}{\text{displacement of the reflected wave}}$ at any instant?

**A** –1 **B** 0 **C** 1 **D** 2