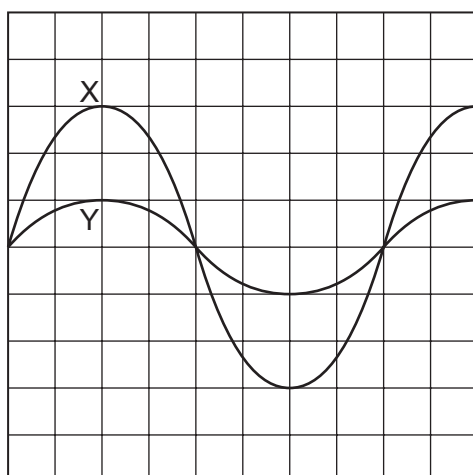


- 26 The diagram represents the screen of a cathode-ray oscilloscope displaying two sound waves labelled X and Y.



What is the ratio  $\frac{\text{intensity of sound wave X}}{\text{intensity of sound wave Y}}$ ?

- A  $\frac{9}{1}$       B  $\frac{3}{1}$       C  $\frac{\sqrt{3}}{1}$       D  $\frac{1}{1}$
- 27 T is a microwave transmitter placed at a fixed distance from a flat reflecting surface S.



A small microwave receiver is moved from T towards S and receives signals of alternate maxima and minima of intensity.

The distance between one maximum and the next is 15 mm.

What is the frequency of the microwaves?

- A  $1.0 \times 10^7 \text{ Hz}$   
 B  $2.0 \times 10^7 \text{ Hz}$   
 C  $1.0 \times 10^{10} \text{ Hz}$   
 D  $2.0 \times 10^{10} \text{ Hz}$