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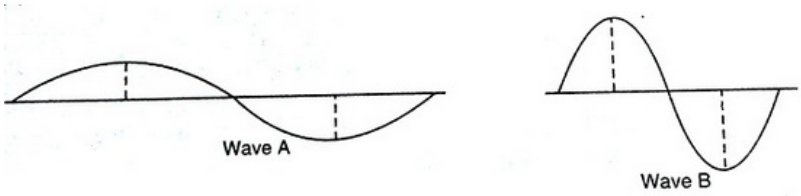
Solution 81



Solution 82
(a) Given that there are four complete waves.

(a) Given that there are four complete waves.

$$\text{Wavelength} = \frac{\text{total length of string}}{\text{number of waves}} = \frac{20}{4} = 5\text{cm} = 0.05\text{m}$$

(b) Frequency = vibrations per sec x number of complete waves
= 30 x 4 =120 Hz
(c) Speed = frequency x wavelength
= 120 x 0.05= 6m/s

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Solution 83
Sound can travel through all the given materials.
Solution 84
(a) Z medium has no fixed shape and no fixed volume.
(b) W medium has a fixed volume but no fixed shape.
(c) Y medium has the same composition as that on the moon.
(d) X medium has a fixed shape and a fixed volume.
Solution 85
(i) The distance between two consecutive compressions or rarefactions is equal to its
wavelength. Hence,
wavelength is =20 cm= 0.20 m
(ii) Speed of wave =4 m/s
Wavelength=0.20 m
Speed of wave =frequency x wavelength
4 m/s = frequency x 0.20 m
Frequency

(i) The distance between two consecutive compressions or rarefactions is equal to its wavelength.
Hence, wavelength is =20 cm= 0.20 m
(ii) Speed of wave =4 m/s
Wavelength=0.20 m
Speed of wave =frequency x wavelength
4 m/s = frequency x 0.20 m

$$\text{Frequency} = \frac{4}{0.20} = 20\text{Hz}$$

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Solution 1
The reflection of sound leads to formation of echoes
Solution 2
Echo is repetition of sound caused by the reflection of sound waves.
Solution 3
The persistence or sound in a big hall or auditorium is called

reverberation.
Solution 4
a) Megaphone and bulb horn
b) Stethoscope
c) Soundboard
Solution 5
Megaphone
Solution 6
a) Loudness
b) Pitch
c) Timbre or Quality
Solution 7
The loudness of sound is measured in decibel. Its symbol is dB.
Solution 8
Pitch helps us to distinguish between a man's voice and a woman's voice, even without seeing them.
Solution 9
Pitch of a sound is directly proportional to frequency. Higher the frequency, higher is the pitch of the sound.
Solution 10
(i) Loudness
(ii) Pitch
(iii) Timbre
Solution 11
Quality or timbre
Solution 12
Ears enable us to hear sounds.
Solution 13
Ear drum starts vibrating when outside sound falls on it.
Solution 14
There are three small bones in the middle ear- anvil, hammer and stirrup.
Solution 15
a) Hammer
b) Stirrup
Solution 16
The function of three tiny bones in the ear is to increase the strength of vibrations coming from the ear drum before passing them onto the inner ear.

********** END **********