

- 27** A dolphin is swimming at a speed of 16.0 m s^{-1} directly towards a stationary underwater microphone.

The dolphin emits a sound of frequency 122 kHz . The speed of sound in water is 1480 m s^{-1} .

What is the frequency of sound detected by the microphone?

- A** 1300 Hz **B** 1330 Hz **C** 121 kHz **D** 123 kHz

- 27** A moving source emits sound of frequency 1200 Hz .

A stationary observer hears sound of frequency 960 Hz . The speed of the sound is 340 m s^{-1} .

What could be the velocity of the source?

- A** 68 m s^{-1} directly away from the observer
B 68 m s^{-1} directly towards the observer
C 85 m s^{-1} directly away from the observer
D 85 m s^{-1} directly towards the observer

- 22** A vehicle is moving with a speed of 30.0 m s^{-1} directly towards a stationary observer. The horn of the vehicle emits sound of frequency 440 Hz . The speed of sound in air is 340 m s^{-1} .

What is the frequency of the sound heard by the observer?

- A** 401 Hz **B** 404 Hz **C** 479 Hz **D** 483 Hz