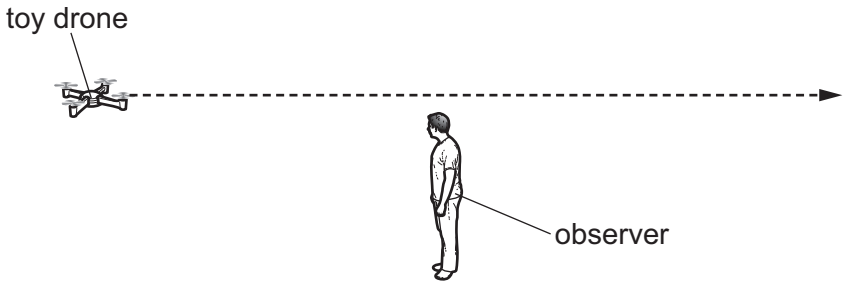
22 A toy drone emits a sound of constant frequency 800 Hz. The speed of the sound in the air is $330\,m\,s^{-1}$.

The drone moves along a straight path directly towards an observer and then continues in a straight line directly away from the observer. The speed of the drone is constant.



What is the velocity of the drone when the frequency of the sound heard by the observer is 850 Hz?

	magnitude of velocity / $m\,s^{-1}$	direction of velocity
A	19	away from the observer
B	21	away from the observer
C	19	towards the observer
D	21	towards the observer

23 Which statement about electromagnetic waves in a vacuum is correct?

A Infrared waves have shorter wavelengths than visible light waves.

B Microwaves have longer wavelengths than radio waves.

C Ultraviolet waves have higher frequencies than visible light waves.

D γ-rays have lower frequencies than X-rays.