

Answer on Question 73462, Physics, Other

Question:

A marching band is practicing. The band director sees the drum major hit a drum. How far away is the director if he hears the drumbeat in 0.40 seconds? The speed of sound is 330 m/s .

- a) 12 m
- b) 132 m
- c) 264 m
- d) 825 m

Solution:

We can find the distance from the director to the drum from the formula:

$$d = vt,$$

here, d is the distance from the director to the drum, $v = 330 \text{ m/s}$ is the speed of sound and t is the time.

Then, we get:

$$d = vt = 330 \frac{m}{s} \cdot 0.40 \text{ s} = 132 \text{ m}.$$

Answer:

- b) $d = 132 \text{ m}$.

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