

Physics 151 Class Exercise: Exam 3 Review

1. A portable radio is sitting at the edge of a balcony 5.1 m above the ground. The unit is emitting sound uniformly in all directions. By accident, it falls from rest off the balcony and continues to play on the way down. A gardener is working in a flower bed directly below the falling unit. From the instant the unit begins to fall, how much time is required for the sound intensity level heard by the gardener to increase by 10.0 dB?

Answer:	
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2. A lead weight with a volume of $0.82 \times 10^{-5} \text{ m}^3$ is lowered on a fishing line into a lake to a depth of 1.0 m. **(a)** What tension is required in the fishing line to give the weight an upward acceleration of 2.1 m/s^2 ? **(b)** If the initial depth of the weight is increased to 2.0 m, does the tension found in part a) increase, decrease, or stay the same? Explain. **(c)** What acceleration will the weight have if the tension in the fishing line is 1.2 N. Give both direction and magnitude.

Answer:	
Answer:	
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