Answer on Question #47923, Physics, Mechanics — Kinematics — Dynamics The sound level of a train is 121 dB when standing at a distance of 11 m. If you moved back to a distance of 22 m, what would be the sound level there? A) 127 dB B) 131 dB C) 115 dB D) 111 dB
Solution
Changing distance in 2 times leads to change in power of sound in 4 times. In bels change is

$$\lg \frac{I}{I_0} \approx 0.6$$

In decibels - 10 times as in bells,

$$0.6 \cdot 10 = 6$$

Hence, sound level will be 121-6 = 115 dB.