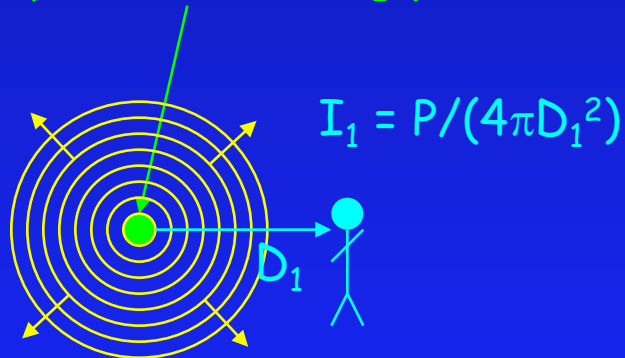# Intensity ACT

- Recall Intensity = P/A. If you are standing 6 meters from a speaker, and you walk towards it until you are 3 meters away, by what factor has the intensity of the sound increased?

1) 2   2) 4   3) 8

Speaker radiating power **P**

$I_1 = P/(4\pi D_1^2)$

D_1

$I_2 = P/(4\pi D_2^2)$

D_2

Area goes as d^2 so if you are ½ the distance the intensity will increase by a factor of 4