7) 8m ⟶ SPL 100dB

1m. ⟶ ?

- Intensity changes with distance.
- → change in intensity dB is same as Sound pressure dB
- → The Sound intensity is 64 times higher at 1m

$10 \log_{10}(64)$

18.06dB

100 + 18.06

⇒ 118.06dB

$I_1 = \frac{P_0}{4\pi r_1^2}$ $r_1 = 1m$

$I_2 = \frac{P_0}{4\pi r_2^2}$ $r_2 = 8m$

$I_1 = 64 I_2$.