ΛΥΣΗ

α) Είναι $D = 10 \cdot log\left(\frac{100}{10^{-12}}\right) = 10 \cdot log(10^2 \cdot 10^{12}) = 10 \cdot log(10^{14}) = 10 \cdot 14 = 140$ Db.

β) Είναι $D_2 - D_1 = 20$, οπότε $10 \cdot log\left(\frac{I_2}{10^{-12}}\right) - 10 \cdot log\left(\frac{I_1}{10^{-12}}\right) = 20$, άρα

$log(10^{12} I_2) - log(10^{12} I_1) = 2 \Leftrightarrow log\left(\frac{10^{12} I_2}{10^{12} I_1}\right) = 2 \Leftrightarrow log\left(\frac{I_2}{I_1}\right) = 2 \Leftrightarrow \frac{I_2}{I_1} = 10^2$.

Ώστε $I_2 = 100 \cdot I_1$.

γ) Έχουμε $120 = 10 \cdot log\left(\frac{I}{10^{-12}}\right) \Leftrightarrow 12 = log(I \cdot 10^{12}) \Leftrightarrow 10^{12} = I \cdot 10^{12} \Leftrightarrow I = 1\ w/m^2$

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